SESSIONAL PAPERS

VOLUME 4

THIRD SESSION OF THE FOURTEENTH PARLIAMENT

OF THE

DOMINION OF CANADA

SESSION 1924

VOLUME LX

ALPHABETICAL INDEX

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4. Shipping Report of the Department of Customs and Excise, containing the Statements of Navigation and shipping of the Dominion of Canada for the fiscal year ended March 31, 1923. Presented March 3, 1924.
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25. Report of the Secretary of State for External Affairs for the year ended March 31, 1923. Presented March 3, 1924.....*Printed for distribution and sessional papers.*

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29. Fifty-sixth Annual Report of the Fisheries Branch of the Department of Marine and Fisheries, for the year 1922-23. Presented March 4, 1924.
Printed for distribution and sessional papers.

30. Report of the Postmaster General for the year ended March 31, 1923. Presented March 3, 1924.....*Printed for distribution and sessional papers.*

31. Report of the Minister of Public Works on the works under his control, for the fiscal year ended March 31, 1923. Presented March 3. 1924.
Printed for distribution and sessional papers.

32. Annual Report of the Department of Railways and Canals, for the fiscal year from April 1, 1922, to March 31, 1923. Presented March 7, 1924.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 6—*Concluded*

33. Nineteenth Annual Report of the Board of Railway Commissioners for Canada, for the year ended December 31, 1923. Presented (manuscript) March 10, 1924.
Printed for distribution and sessional papers.

34. Report of the Chief Electoral Officer for 1923. Presented February 28, 1924.
Not printed.

34*a*. Report on By-Elections for the House of Commons of Canada, held during the year 1923, Presented February 28, 1924.....*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 7

35. Report of the Canadian Delegates to the Fourth Assembly of the League of Nations, Geneva, September 3 to 29, 1923. Presented March 3. 1924.
Printed for distribution and sessional papers.

36. Record of Proceedings and Documents, Imperial Economic Conference of representatives of Great Britain, The Dominions, India, and the Colonies and Protectorates, held in October and November, 1923. Presented March 3, 1924.
Printed for distribution and sessional papers.

36*a*. Summary of Conclusions, Imperial Economic Conference, 1923. Presented March 3, 1924.....*Printed for distribution and sessional papers.*

37. Summary of Proceedings of the Imperial Conference, 1923. Presented March 3, 1924.
Printed for distribution and sessional papers.

37*a*. Appendices to the Summary of Proceedings, Imperial Conference, 1923. Presented March 3, 1924.....*Printed for distribution and sessional papers.*

38. *Appendix to* the Report of the Joint Librarians of Parliament for 1923. Presented February 28. 1924.....*Not printed.*

39. Report of Commission appointed under Order in Council P.C. 1929, September 22, 1923, to enquire into the Industrial unrest among the Steel Workers at Sydney, N.S. Presented February 28, 1924.....*Presented in printed form.*

40. Copy of the Copyright Rules and Forms, 1924, adopted under the authority of the Copyright Act, 1921, as amended, 1923. Presented February 28, 1924,
Presented in printed form.

41. Copy of Order in Council, P.C. 22, dated 9th January, 1924, providing for the administration of the Patent Act and the Copyright Act, by the Minister of Trade and Commerce; and confirming the appointment of G. F. O'Halloran, as Commissioner of Patents. Presented February 28. 1924.....*Not printed.*

42. Report of the Director of Dominion Experimental Farms for the fiscal year ended March 31, 1923. Presented February 28, 1924.....*Presented in printed form.*

43. Regulations under "The Destructive Insect and Pest Act." pursuant to Section 9, Chapter 31 of 9-10 Edward VII. Presented February 28, 1924.....*Not printed.*

44. Report on "The Agricultural Instruction Act," 1922-23, pursuant to Section 8, Chapter 5 of 3-4 George V. Presented February 28, 1924.....*Not printed.*

45. Report of the proceedings of the Commissioners of Internal Economy of the House of Commons for 1923, pursuant to Rule 9. Presented March 3, 1924....*Not printed.*

46. Correspondence between the Honourable Sir Lomer Gouin, K.C.M.G., M.P., and the Prime Minister concerning the former's resignation as Minister of Justice. Presented March 3, 1924.....*Not printed.*

47. Copies of the Imperial print containing the recent Treaty of Peace with Turkey, and other instruments, signed at Lausanne on the 24th July, 1923, together with the Agreements between Greece and Turkey signed on January 30, 1923, and Subsidiary Documents forming part of the Turkish Peace Settlement. Presented March 3, 1924.
Presented in printed form.

CONTENTS OF VOLUME 7—*Continued*

48. Copy of Convention between the United Kingdom, France, Italy and Japan relative to to the Assessment and Reparation of Damage suffered in Turkey by the Nationals of the Contracting Powers, together with Protocol providing for Signature by Roumania, signed at Paris, November 23, 1923. Presented March 3, 1924 *Presented in printed form.*

49. Copy of a Convention between His Majesty the King and the President of the United States of America, dated 23rd January, 1924, in connection with the laws in force in the United States on the subject of alcoholic beverages. Presented March 3, 1924. *Not printed.*

50. Rules adopted by the various provinces, relating to appeals against convictions or sentences, under the provisions of the Criminal Code of Canada. Presented March 3 and 10.....*Not printed.*

50*a*. Copy of Further Rules of the Court of Appeal for Manitoba, respecting the granting of Bail upon appeals from convictions on indictments. Presented April 4, 1924. *Not printed.*

50*b*. Rules adopted by the province of Saskatchewan relating to appeals against convictions or sentences, under the provisions of the Criminal Code of Canada. Presented April 29, 1924.....*Not printed.*

51. Copy of Order in Council, P.C. 1694, dated 25th August, 1923; Amendments and additions to the General Rules under the Bankruptcy Act. Presented March 3, 1924. *Not printed.*

52. Second Report of the Soldier Settlement Board on its activities and operations from April 1, 1921, to March 31, 1923. Presented March 3, 1924. *Presented in printed form.*

52*a*. Return to an Order of the House of the 20th March, 1924, for a Return showing: 1. The total cost of administration of the Soldier Settlement Board, in each year since the institution of the Board. 2. The estimated total amount of interest which has been rebated or will be rebated to settlers under the Act of 1922. 3. The total number of employees each year since the formation of the Board. 4. How many loans have been made in each province in each year by the Board. 5. The total amount due by settlers in each province in each year. 6. The total amount paid by soldier settlers in each province in each year. 7. In how many cases the Board purchased lands for the settler. 8. On what terms these lands were sold to soldier settlers. 9. In how many of these cases the settler has abandoned his farm. 10. How much land has been purchased by the Board in each province, and for how many settlers in each province, and the total price paid for same. 11. Amount loaned in each province for purchase of stock and equipment, and the average loan for each settler for this purpose, in each province. 12. The total number of salvage cases in each province, and the total amount owing to the Board under such cases at the time of salvage or abandonment: (*a*) for stock and equipment, (*b*) for lands. 13. Amount previously paid to the Board in such cases by soldier settlers. 14. Amount of salvage lands resold, and the total sales price of these lands. 15. Value of the land still held by the Board at the purchase price. 16. Amount received from the sale of stock and equipment in salvaged cases. 17. In how many cases auction sales have been held for land or equipment of soldier settlers. 18. On what terms salvaged lands are being sold to the public. 19. How many soldier settlers are now in arrears on their payments, and the total amount of such arrears. 20. Amount of future payments due to the Board: (*a*) by soldier settlers; (*b*) by civilians. 21. Total amount now held in the Soldier Land Settlement Assurance Fund. Presented May 6, 1924. Mr. Coote.....*Not printed.*

52*b*. Return to an Order of the Senate dated May 8, 1924, for a Return showing: 1. The number of settlers under the Soldier Settlement Scheme that have abandoned their farms. 2. The cost to the Government for land and equipment in all cases that have been salvaged. 3. What disposition, if any, was made of the land and equipment; if sold, what percentage of the original cost was realized. 4. Number of cases where foreclosure proceedings were instituted by the Government. Presented May 23, 1924. Hon. Mr. Gillis.....*Not printed.*

CONTENTS OF VOLUME 7—*Continued*

53. Statement of Governor General's Warrants issued since last session of Parliament on account of 1923-24. Also,—Statement of the Auditor General respecting overrulings by the Treasury Board on decisions of the Auditor General. Presented March 3, 1924. ..... *Not printed.*

54. Statement of Expenditure on account of "Miscellaneous Unforeseen Expenses," from the 1st April, 1923, to the 28th February, 1924, in accordance with the Appropriation Act, 1923-24. Presented March 3, 1924.....*Not printed.*

55. Statement of Superannuation and Retiring Allowances in the Civil Service during the year ended 31st December, 1923, under Chap. 17, R.S.C., 1906, showing name, rank, salary, age, service allowance and cause of retirement of each person superannuated or retired, also whether the vacancy has been filled by promotion, or by appointment, and the salary of any new appointee. Presented March 3, 1924. *Not printed.*

56. Statement in pursuance of Section 17 of the Civil Service Insurance Act, for the year ending March 31, 1923. Presented March 3, 1924.....*Not printed.*

57. Statement of Returned Soldiers' Insurance, for the year ended 31st March, 1923. Presented March 3, 1924.....*Not printed.*

58. Report of the Superintendent of Insurance of the Dominion of Canada for the year ended December 31, 1922.—Loan and Trust Companies. Presented March 3, 1924. *Presented in printed form.*

58a. Abstract of Statements of Loan and Trust Companies in Canada, for the year ended 31st December, 1923. Presented May 20, 1924.....*Presented in printed form.*

59. Statement of Receipts and Expenditures of the National Battlefields Commission for the year ended 31st March, 1923. Presented March 3, 1924.....*Not printed.*

60. Lists of Shareholders in the Chartered Banks of the Dominion of Canada as on December 31, 1923, in accordance with section 114, chapter 32, Act of 1923 (The Bank Act). Presented March 3, 1924.....*Not printed.*

61. Lists of Unclaimed Balances, etc., in Canadian Chartered Banks, in accordance with section 114, chapter 32, Act of 1923 (The Bank Act). Presented March 3, 1924. *Not printed.*

62. Lists of Shareholders in Quebec Savings Banks, made in accordance with section 58, of chapter 42, Act of 1913 (Quebec Savings Bank Act). Presented March 3, 1924. *Not printed.*

63. Lists of Unclaimed Balances, etc., in Quebec Savings Banks—made in accordance with section 59 of chapter 42, Act of 1913 (Quebec Savings Bank Act). Presented March 3, 1924.....*Not printed.*

64. Copies of General Orders promulgated to the Militia for the period between February 1, 1923, and February 1, 1924. Presented March 3, 1924. *Presented in printed form.*

65. Appointments, Promotions and Retirements, Canadian Militia and Canadian Expeditionary Force, from February 1, 1923, to February 1, 1924. Presented March 3, 1924. ..... *Presented in printed form.*

66. Copies of Militia Orders promulgated between February 1, 1923, and February 1, 1924. Presented March 31, 1924.....*Presented in printed form.*

67. Copies of Orders in Council passed between May 31, 1923, and January 30, 1924, in respect to the Department of National Defence under the provisions of section 47, chapter 43, 9-10 Edward VII (Naval Service). Presented March 3, 1924. *Not printed.*

67*a*. Copy of Order in Council, No. P.C. 420, 12th March, 1924, amending Regulations for the Organization and Government of Officers of the Royal Canadian Naval Reserves. Presented June 23, 1924.....*Not printed.*

CONTENTS OF VOLUME 7—*Continued*

67*b*. Copy of Order in Council, P.C. 553, dated 8th April, 1924—amending Par. (1) (*c*) and (*d*) of the Regulations for Officers of the Royal Canadian Naval Volunteer Reserve. Presented April 29, 1924.....*Not printed.*

67*c*. Order in Council, P.C. 866, of the 30th May, 1924, authorizing the employment of two additional Petty Officers, Instrctors, R.C.N.V.R. Order in Council, P.C. 985 of the 14th June, 1924, recommending the establishment of Regulations to govern the entry of Cadets in the Royal Canadian Navy. Presented June 23, 1924.....*Not printed.*

68. Ordinances of the Yukon Territory passed by the Yukon Council in the year 1923. Presented March 3, 1924 .....*Presented in printed form.*

69. Copy of General Rules and Orders of the Exchequer Court of Canada, in accordance with the provisions of section 87 of the Exchequer Court Act. Presented March 3, 1924 ..... *Presented in printed form.*

70. Detailed statement of Remissions of Customs Duties, Excise Taxes and Sales Taxes and the Refund thereof, under Section 92, Consolidated Revenue and Audit Act, through the Department of Customs and Excise, for the fiscal year ended 31st March, 1923. Presented March 4, 1924.....*Not printed.*

71. Return showing the number of permits granted to take intoxicants into the North West Territories, for the year ended December 31, 1923, in accordance with the provisions of the Revised Statutes, Chapter 62, Section 88. Presented March 3, 1924.....*Not printed.*

72. Return showing all lands sold by the Canadian Pacific Railway Company during the year ended 30th September, 1923, together with the names of the purchasers, in accordance with 49 Victoria, Chapter 9, Section 8. Presented March 3, 1924. *Not printed.*

73. Statement showing the number of Enfranchisements under the Indian Act, from 1st April, 1923. to 31st January, 1924. Presented March 3, 1924.....*Not printed.*

74. Report under section 7 of the Reclamation Act, 9-10 George V, showing the drainage works constructed, the area of land reclaimed, the expenditure and money received from the sale or lease of Dominion Lands. Presented March 3, 1924. *Not printed.*

75. Supplementary Rules, Regulations and Forms prescribed under the provisions of section 54 of the Irrigation Act. Presented March 3, 1924.....*Not printed.*

76. Return of Orders in Council which have been published in the *Canada Gazette,* between 1st January, 1923, and the 25th January, 1924, in accordance with the provisions of Section 77 of "The Dominion Lands Act," Chapter 20, 7-8 Edward VII. Presented March 3, 1924.....*Presented in printed form.*

77. Return of Orders in Council which have been published in the *Canada Gazette* between the 1st January, 1923, and the 25th January, 1924, in accordance with the provisions of Section 19, Chapter 10, 1-2 George V,—"The Dominion Forest Reserves and Parks Act." Presented March 3, 1924....*Presented in printed form.*

78. Copies of Orders in Council passed between the 1st January, 1923, and the 25th January, 1924, approving of regulations and forms prescribed in accordance with the provisions of Section 4, Chapter 18, 1917, "Migratory Birds Convention Act." Presented March 3, 1924.....*Presented in printed form.*

79. Return of Orders in Council which have been published in the *Canada Gazette* between the 1st January, 1923, and the 25th January, 1924, in accordance with the provisions of Section 5 of "The Dominion Lands Survey Act," Chapter 21, 7-8 Edward VII. Presented March 3, 1924.....*Presented in printed form.*

80. Return of Orders in Council which have been published in the *Canada Gazette* and in the *British Columbia Gazette,* between 1st January, 1923, and the 25th January, 1924, in accordance with provisions of Subsection (*d*) of Section 38 of the regulations for the survey, administration, disposal and management of Dominion Lands within the 40-mile Railway Belt in the Province of British Columbia. Presented March 3, 1924.....*Presented in printed form.*

CONTENTS OF VOLUME 7—*Continued*

81. Report of the administrative chairman of the Honorary Advisory Council for Scientific and Industrial Research of Canada, for the year ending March 31, 1923. Presented March 3, 1924.....*Presented in printed form.*

81*a*. Financial Statement of the Honorary Advisory Council for Scientific and Industrial Research of Canada, for the year ended March 31, 1923. Presented March 3, 1924. *Not printed.*

82. Copy of Rules and Regulations of the Board of Grain Commissioners in respect to Country Elevators.. Presented March 3, 1924.....*Not printed.*

83. Annual Report of the Board of Trustees of the National Gallery of Canada, for the fiscal year ending the 31st March, 1923. Presented March 3, 1924. *Presented in printed form.*

84. Report of the Superintendent of Insurance of the Dominion of Canada for the year ended 31st December, 1922—Volume I, Insurance Companies other than Life; Volume II, Life Insurance Companies. Presented March 3, 1924. *Presented in printed form.*

85. Authentic text of a Recommendation adopted by the International Labour Conference at its Fifth Session, Geneva, October 22-29, 1923, concerning laws and regulations for the protection of workers. Presented March 3, 1924. *Presented in printed form.*

86. Copies of Orders in Council, passed under various Peace Treaties Acts, as follows:—P.C. 521 and P.C. 522, dated 24th March, 1923, *re* appointment of Mrs. J. Carruthers to International Labour Office; P.C. 971, dated 29th May, 1923, *re* appointment of National Group *re* nomination of Judge to Permanent Court of International Justice; P.C. 1313, dated 17th August, 1923, *re* appointment of delegates to League of Nations Assembly; P.C. 1634, dated 17th August, 1923, *re* appointment of delegates to International Labour Conference; P.C. 1847, dated 12th September, 1923, *re* appointment of R. H. Coats, F.R.S.C., to International Labour Conference; P.C. 2042, dated 6th October, 1923, *re* appointment of delegates to International Labour Conference; P.C. 2477 and P.C. 2478, dated 22nd December, 1923, *re* appointment of Philippe Roy to International Labour Conference. Presented March 3, 1924.....*Not printed.*

87. Copy of the Radiotelegraph Act and Regulations issued thereunder, together with an amendment to subsection 7 of the Regulations—Amateur Experimental Station license fees. Presented March 4, 1924.....*Not printed.*

87*a*. Amendment to Radiotelegraph Regulation No. 1, Subsections 6 and 10—Broadcasting Licenses. Presented March 21, 1924.....*Not printed.*

87*b*. Radiotelegraph regulation No. 104 (*c*), amending regulation No. 104. Presented (Senate) July 19, 1924.....*Not printed.*

88. Return of leases of wharves, piers and breakwaters for the year 1923. Presented March 4, 1924.....*Not printed.*

89. Return of tolls and dues of Government harbours, for the year 1923. Presented March 4, 1924.....*Not printed.*

90. Detailed statement of all bonds or securities registered in the Department of the Secretary of State of Canada, since last return, submitted to the Parliament of Canada under section 32 of Chapter 19, of the Revised Statutes of Canada, 1906. Presented March 11, 1924.....*Not printed.*

91. Report of retirements under the Public Service Act, 1920, as amended, 1921, 1922 and 1923, authorized by Orders in Council passed from January 1 to December 31, 1923. Presented March 11, 1924.....*Not printed.*

92. List of Leases, Licenses, Permits or other authorities cancelled under the provisions of Section 3, Chapter 21, of the Statutes of 1922, An Act respecting Notices of Cancellation of Leases of Dominion Lands. Presented March 11, 1924.....*Not printed.*

93. Return in connection with Reclamation Act Regulations, under the provisions of Section 5, Chapter 5, Statutes of 1919. Presented March 11, 1924.....*Not printed.*

CONTENTS OF VOLUME 7—*Continued*

94. Return in connection with Railway Belt Water Act, under provisions of Section 4, Chapter 45, Statutes of 1913. Presented March 11, 1924.....*Not printed.*

95. Return in connection with the Regulations respecting Indians under the provisions of Section 170, Chapter 81, of the Revised Statutes. Presented March 11, 1924.
Not printed.

96. Return in connection with Remissions on Sales of Indian lands under the provisions of Section 88, Chapter 81, of the Revised Statutes. Presented March 11, 1924.
Not printed.

97. Report of the Ottawa Improvement Commission for the fiscal year ended March 31, 1923. Presented March 13, 1924.....*Not printed.*

98. Statement of the Receipts and Expenditures of the Royal Society of Canada, for the year ended April 30, 1923. Presented March 13, 1924.....*Not printed.*

99. Report of the Royal Commission appointed to investigate into all circumstances relating to payments made by the Grand Trunk Railway Company to its officers, directors, etc., together with a copy of the evidence taken in respect thereto; also copy of Exhibits. Presented March 17 and 20, 1924.....*Not printed.*

100. Copy of amended Order in Council P.C. 412, of March 17, 1924, providing for an investigation into the failure of the Home Bank of Canada. Presented March 17, 1924.....*Not printed.*

100*a*. Copy of Order in Council P.C. 306, of February 23, 1924, providing for an investigation into the failure of the Home Bank of Canada. Presented March 24, 1924.
Not printed.

100*b*. Copy of a Petition signed by the Executive Committee of the depositors in the Home Bank of Canada, presented to the Governor General in Council, asking for full indemnity against loss suffered by reason of the failure of the said Bank, dated 23rd day of January, 1924. Presented March 27, 1924.....*Not printed.*

100*c*. Return to an Order of the House of the 2nd April, 1924, for a copy of all correspondence, petitions, telegrams and documents exchanged between the Government or any member thereof or any government official and the Management or any of the Directors of the Home Bank since January 1, 1922. Presented April 28, 1924. Sir Henry Drayton.....*Not printed.*

100*d*. Interim Report of the Royal Commission appointed to investigate the failure of the Home Bank of Canada. Presented June 11, 1924.
Printed for distribution to Senators and Members, and Sessional Papers.

101. Copy of Correspondence exchanged between the Government of Canada and the United States of America in connection with the St. Lawrence Waterway Project. Presented March 17, 1924.....*Not printed.*

101*a*. Return to an Address to His Excellency the Governor General of the 19th March, 1924, for a copy of all correspondence exchanged between the Government of Canada and that of the United States regarding the carrying out of the joint International report relating to the St. Lawrence Waterway. Presented April 1, 1924. Mr. Church.....*Not printed.*

101*b*. Return to an Address to His Excellency the Governor General of the 24th March, 1924, praying that he will cause to be laid before the House a copy of all memoranda, correspondence, telegrams and other documents exchanged between the Government of Canada or any of its members and other governments, corporations or individuals, since the first day of January, 1922, relating to the St. Lawrence Waterway Route, and the establishment of dams on the St. Lawrence for the development of certain water-powers. Presented April 1, 1924. Mr. Archambault.
Not printed.

101*c*, **101***d*. Supplementary Returns to an Address to His Excellency the Governor General of the 24th March, 1924, praying that he will cause to be laid before the House a copy of all memoranda, correspondence, telegrams and other documents exchanged between the Government of Canada or any of its members and other

CONTENTS OF VOLUME 7—*Continued*

governments, corporations or individuals, since the first day of January, 1922, relating to the St. Lawrence Waterway Route, and the establishment of dams on the St. Lawrence for the devolopment of certain water-powers. Presented April 28, May 5, 1924. Mr. Archambault.
Printed for distribution to Senators and Members and Sessional Papers.

101*e*. Further correspondence between Canada and the United States of America respecting the St. Lawrence Waterway Project—Appointment of a Joint Engineering Board. Presented May 9, 1924.
Printed for distribution to Senators and Members and Sessional Papers.

101*f*. Copy of Order in Council, P.C. 779, dated 7th May, 1924, constituting a Canadian National Advisory Committee to consider generally whether or not the St. Lawrence Waterway project would, if completed, be beneficial to Canada. Presented May 9, 1924.
Printed for distribution to Senators and Members and Sessional Papers.

101*g*. Copy of Order in Council, P.C. 778, dated 7th May, 1924, appointing Duncan W. McLachlan, Olivier Odilon Lefebvre and Brigadier General Charles Hamilton Mitchell, to act on a Joint Board of Engineers respecting the improvement of the St. Lawrence Waterway. Presented May 9, 1924.
Printed for distribution to Senators and Members and Sessional Papers.

102. Return to an Order of the House of the 24th April, 1922, for a return showing:1. Whether an inventory was taken of all war material furnished to the British Government by Canada, when the late war was declared. 2. Nature of such shipments, and on what date they were shipped. 3. Whether this war material was paid for in kind or was it paid for in money. 4. Dates of these payments and their nature. Presented March 19, 1924. Mr. Vien..... *Not printed.*

103. Supplementary return to an Order of the House of the 19th February, 1923, for a Return showing: 1. Names of the Government employees, temporary or permanent, employed in the city and district of Quebec who have been dismissed between October 15, 1911, and December 25, 1921. 2. Names of those dismissed following an inquiry. 3. Names of those dismissed without an inquiry. 4. How many of these employees have been reinstated, and on what dates. Presented March 19, 1924. Mr. Cannon ..... *Not printed.*

104. Supplementary Return to an Order of the House of the 5th April, 1922, for a Return showing in detail the amount of money paid by the Government of Canada or any department thereof, to barristers and solicitors of the Supreme Court of Nova Scotia, between the 1st day of October, 1911, and the 30th day of January, 1922, both inclusive, for professional or other services. Also a copy of all bills of costs, expenses and charges of every kind rendered by said barristers and solicitors to the Government, showing the amount or amounts paid in each instance. Also showing the names of barristers and solicitors employed during the aforesaid period, the work performed and the amount paid for every item of said work to each of said barristers and solicitors. Presented March 19, 1924. Mr. Martell.....*Not printed.*

105. Supplementary Return to an Order of the House of the 9th May, 1923, for a copy of all correspondence, telegrams or other communications passing during the summer or fall of 1922 between the Dominion Government or any of its ministers or representatives and the Dominion Marine Association or any of its agents or representatives, or of any other person or persons whatsoever, in any way relating to the abrogation or suspension of the Dominion Coastal Shipping Regulations, or in any way relating to the grain congestion at lake ports or Montreal, or to the alleged combine, or the imposition of exorbitant rates by shipping interests engaged in the grain trade. Presented March 19, 1924. Mr. Coote....*Not printed.*

106. Return to an Order of the House of the 11th June, 1923, for a copy of all communications in connection with the prohibition of American vessels purchasing bait from netters and trap owners in the Maritime Provinces. Presented March 19, 1924. Mr. Forke.....*Not printed.*

CONTENTS OF VOLUME 7—*Continued*

107. Return to an Address to His Excellency the Governor General of the 11th April, 1923, for a copy of all letters, papers, telegrams, Orders in Council and other documents dealing with and relating to the abolition of the office or position of Police or Stipendiary Magistrate in the Rocky Mountains Park of Canada and dealing with and relating to the dismissal of B. W. Collison, Esq., of Banff, Alberta, from said office or position. Presented March 19, 1924. Mr. Shaw.....*Not printed.*

108. Return to an Order of the House of the 21st February, 1923, for a copy of all papers, letters, correspondence, memoranda, reports, and other documents, relating to an application made during 1922 by the Calgary Power Company for additional power rights and privileges in the Banff National Park. Presented March 19, 1924. Mr. Shaw.....*Not printed.*

109. Return to an Order of the House of the 21st February, 1923, for a copy of all papers, memoranda, correspondence, reports and other documents of all kinds, relating to the discovery of the "Cave and Basin" and the "Hot Springs" at Banff, Alberta, and relating to the acquisition of said properties by the Dominion Government and the payment therefor. Presented March 19, 1924. Mr. Shaw.....*Not printed.*

110. Return to an Order of the House of the 7th May, 1923, for a copy of all letters, telegrams, petitions, memorandums, correspondence, reports of investigations, and other documents which have been received by the Department of Marine and Fisheries since 1920 concerning the sardine herring fishery in New Brunswick, particularly any matter with reference to the sale and price of said fish. Presented March 19, 1924. Mr. Duff.....*Not printed.*

111. Copy of correspondence between the Prime Minister of Canada and Members of the British Government in respect to the subject of proposed preferential duties put forward by the Government of Great Britain at the meeting of the Imperial Economic Conference, 1923. Presented March 19, 1924.
Printed for distribution to Senators and Members.

112. Memorandum received by the Prime Minister of Canada from Sir Robert Sanders, Minister of Agriculture for Great Britain, and the reply of the Prime Minister to Sir Robert Sanders, on the subject of Cattle Embargo. Presented March 19, 1924.
Printed for distribution to Senators and Members.

113. Correspondence between the Japanese and Canadian Governments in respect to Japanese immigration. Presented March 19, 1924.....*Not printed.*

114. Estimates of sums required for the service of the Dominion for the year ending on the 31st March, 1925. Presented March 19, 1924.....*Presented in printed form.*

114*a*. Supplementary Estimates of sums required for the service of the Dominion for the year ending on the 31st March, 1925. Presented July 7, 1924.
Presented in printed form.

115. Copy of Order in Council P.C. 301, dated 23rd February, 1924, appointing a Board of Audit, under the provisions of The Board of Audit Act, 1923, the said Board to consist of the Auditor General, the Deputy Minister of Finance, George Edwards, Esquire, of the firm of Edwards, Morgan and Company, Toronto, and W. Garth Thomson, Esquire, of the firm of Marwick, Mitchell and Company, Montreal; and Extending the powers of the Board. Presented March 20, 1924.....*Not printed.*

116. Return to an Order of the House of the 19th March, 1924, for a Return showing: 1. The respective quantities, values and amount of duty collected, on the importations of calf and cattle skins, also the quantity and value of calf and cattle skins exported from Canada during the years ending March 31, 1920, 1921, 1922 and 1923. 2. The respective quantities, values and duty collected on eggs imported, also the quantity and value of eggs exported from Canada, during the years ending March 31, 1920, 1921, 1922 and 1923. 3. The respective quantities, values and duty collected on butter imported during the years above mentioned, also the quantity and value of butter exported. 4. The respective quantities, values and duty collected on the imports of pork and pork products such as fresh, salted and cured bacon and hams, lard, etc., also the exports of same for the years 1920, 1921, 1922 and 1923. 5. The respective quantities, values and duty collected on imports of oleomargarine for

CONTENTS OF VOLUME 7—*Continued*

the years 1920, 1921, 1922 and 1923. 6. The respective quantities, values and duty collected on imports of material used in the manufacture of oleomargarine for 1920, 1921, 1922 and 1923. 7. The quantities and values of the exports of oleomargarine for the years 1920, 1921, 1922 and 1923. Presented March 20, 1924. Mr. Sutherland. ..... *Not printed.*

117. Return to an Order of the House of the 7th May, 1923, for a Return showing: 1. Whether a certain number of officials of the Immigration Department of New Brunswick or elsewhere were transferred, last spring, to the Immigration Department at the Port of Quebec. If so, whether they understood and spoke the French language. 2. Whether it is the intention of the Immigration Department to transfer said staff this year. 3. Whether complaints were made by French-speaking immigrants and citizens, that a great number of said staff could not speak or understand the French language. 4. Salary paid to each of the said officials and employees for the immigration season. 5. How much is allowed to each for their expenses. 6. Salary paid to citizens of Quebec, who occupy similar positions to the ones occupied by these strangers transferred to Quebec. 7. Whether Mr. Joseph H. Byrne, caterer for the Immigration Department at Quebec, by virtue of a certain clause in his contract recently agreed upon with the Immigration Department, can employ French Canadians who do not speak English fluently. 8. Whether said Mr. Joseph H. Byrne, under his contract recently agreed upon with the Immigration Department, can offer for sale without special authorization, all products made by manufacturers of the city of Quebec. Presented March 21, 1924. Mr. Lavigueur. *Not printed.*

118. Return to an Order of the House of the 5th March, 1923, for a copy of all agreements entered into between the Government and any party relating to maintenance and operation of water storage dams on Ottawa River and tributaries, surveys in connection therewith and settlement of land damages. Presented March 21, 1924. Mr. Parent..... *Not printed.*

119. Copy of contracts between the Dominion Government and the P. Lyall & Sons Construction Company, Limited, for the reconstruction of the Parliament Buildings made on the 29th day of September, 1916, and the 28th day of June, 1923. Presented March 24, 1924..... *Not printed.*

119*a*. Copy of Order in Council, P.C. 567, dated 29th March, 1923, providing additional compensation for the architects of the new Parliament Building, Messrs. Pearson and Marchand. Presented March 24, 1924..... *Not printed.*

119*b*. Copy of correspondence and agreement with the architects, Messrs. Pearson and Marchand, respecting the completion of the work on the new Parliament Building, Ottawa. Presented March 26, 1924..... *Not printed.*

120. Return to an Order of the House of the 20th March, 1924, for a Return showing: 1. Number of steamship companies receiving subsidies from the Government. 2. Names of these companies. 3. Amount of subsidy paid to each. 4. Under what conditions these subsidies are paid. Presented March 25, 1924. Mr. Woodsworth. *Not printed.*

121. Return to an Address to His Excellency the Governor General of the 19th March, 1924, for a copy of all regulations and conditions passed by the Governor in Council under Section 11, Chapter 13 of the Statutes of 1919, being The Canadian National Railway Act, since the 21st of February, 1923. Presented March 26, 1924. Mr. MacLaren. ..... *Not printed.*

122, 122*a*. Return and Supplementary Return to an Order of the House of the 19th March, 1924, for a copy of all correspondence, letters and other documents in the possession of the Government in connection with a claim held by the Government, against R. Denovan, of Yorkton, Sask., which claim covers a number of fines collected by him in his capacity as a Justice of the Peace in the province of Saskatchewan. Presented March 26, May 21, 1924. Mr. Campbell..... *Not printed.*

123. Copy of correspondence between the Prime Minister and the High Commissioner and other officials of the Government, respecting the purchase of the Union Club Building, Trafalgar Square, London, England, as a Canadian Headquarters in London; also memorandum *re* new premises; also agreement *re* purchase of the same. Presented March 26, 1924..... *Not printed.*

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123*a*. Copy of further correspondence between the Prime Minister and the High Commissioner, respecting the purchase of a building as a Canadian Government Headquarters in London, England. Presented March 26, 1924.....*Not printed.*

124. Return to an Order of the House of the 19th March, 1924, for a Return showing: 1. What are (*a*) the dates of each and every trip of each respective member of the Federal Appeal Board; (*b*) the names of the cities and towns travelled to on each trip; (*c*) the Commissioner's and Secretarial Staff's traveling expenses on each trip; and (*d*) the names and regimental numbers of the soldiers whose appeals were heard on each trip. 2. Total travelling expenses of each respective member of the said Federal Appeal Board from the date of appointment to March 15, 1924, inclusive. 3. Number of appeal cases heard by each of said Commissioners. 4. How many cases (*a*) have been heard by a one man board; and (*b*) how many decisions of the Board of Pension Commissioners and Soldiers Civil Re-establishment have been reversed by a one man board. 5. How many of the decisions of the one man boards have been re-appealed by the applicants, the Board of Pension Commissioners or the Soldiers Civil Re-establishment. Presented March 27, 1924. Mr. Bowen. ....*Not printed.*

124*a*. Return to an Order of the House of the 19th March, 1924, for a Return showing: 1. Names of the members of the Federal Appeal Board, and the date of their appointment. 2. Expenses for moving household effects of the members of the Federal Appeal Board paid by the Government. 3. Amounts of these expenses for each respective member. 4. Amounts of travelling allowance per day of the members of the said Board. 5. Names, salaries and duties of the personnel on the staff of the said Board. 6. Total expenditure for the members of the Board and their staff, from the date of appointment to March 15, 1924, inclusive. This expenditure to include salaries of the Members and staff, office rent, office furniture, heat, light, travelling expenses, railway warrants, and personal equipment. Presented March 27, 1924. Mr. Simpson. .....*Not printed.*

124*b*. Return to an Order of the House of the 20th March, 1924, for a Return showing: The war record in Canada, in England and in France, of each of the members of the Federal Appeal Board appointed by the present Government. Presented March 28, 1924. Mr. Ross (Kingston).....*Not printed.*

125. Return to an Order of the House of the 26th March, 1924, for a Return showing: 1. The amounts paid by the various departments of the Federal Government for legal services in the province of Alberta, from the 1st January, 1922, to the 1st of March, 1924. 2. The names of the lawyers or firms of lawyers to whom payments have been made and the amount paid to each. Presented March 27, 1924. Mr. Gardiner. .... *Not printed.*

126. Return to an Order of the House of the 20th March, 1924, for a Return showing: 1. Amount of velvets, velveteens, silk velvet and plush not over 24 inches in width and silk fabrics not over 26 inches in width imported into Canada per month during the months of October, November and December, 1923, and January, 1924, (*a*) from all countries and (*b*) from France, Italy and each of the other countries receiving "most favoured nation treatment." 2. Amount of velvets, velveteens, silk velvets and plush over 24 inches in width and silk fabrics over 26 inches in width imported into Canada per month during the same period, (*a*) from all countries and (*b*) from France, Italy and each of the other countries receiving "most favoured nation treatment." Presented March 31, 1924. Mr. Ryckman.....*Not printed.*

127. Copy of Order in Council, P.C. 530, dated 29th March, 1924, directing the Civil Service Commission, in conjunction with the Board of Audit and deputy heads of departments, to immediately undertake a revision of the salaries of the Civil Service of Canada; also copy of a Report of a sub-committee of the Privy Council having under consideration the question of hours, holidays and kindred subjects. Presented April 1, 1924.....*Not printed.*

128. Return to an Order of the House of the 19th March, 1924, for a Return showing: 1. The terms of the contract for cartage for the Fort Osborne Barracks, Military District No. 10, Winnipeg. 2. The name and address of the contractor. 3. Term of the contract. 4. The rate per hour for half, one, one and a half, two and three ton motor trucks, and the rate per hour for teams. Presented April 1, 1924. Mr. Woodsworth. ....*Not printed.*

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129. Return to an Order of the Senate, dated June 27, 1922, for a return showing: 1. What classes of persons, other than employees of the railways and persons entitled under the Pension Act, Chapter 43 of 1919, are receiving or are entitled to receive pensions or superannuation allowances payable by the Government of Canada. 2. In what cases. if any, do persons entitled to such pensions or superannuation allowances contribute to the same, and in what proportions do they respectively contribute. 3. Under what Statutes and Orders in Council are such pensions and superannuation allowances respectively authorized and regulated. Presented April 1, 1924. Hon. Mr. Tanner..... *Not printed.*

130, 130*a*. Return and supplementary return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, letters, telegrams, engineering reports, estimates of cost and other documents relative to the proposed Railway Branch Line between Buctouche and Richibucto, in the County of Kent, New Brunswick. Presented April 2 and 14, 1924. Mr. Doucet.....*Not printed.*

131. Return to an Order of the House of the 24th March, 1924, for a return showing all employees of the Canadian National Railways receiving $4,000 per annum or over, with the salary of each. Presented April 2, 1924. Mr. Doucet.....*Not printed.*

131*a*. Return to an Order of the House of the 9th April, 1924, for a return showing the names of all officials of the Canadian National Railway System, inclusive of superintendents and officials or special employees drawing salaries higher than superintendents, together with the salary of each. Presented April 24, 1924. Mr. Doucet. *Not printed.*

132. Return to an Order of the House of the 19th March, 1924, for a copy of all minutes of evidence, documentary evidence, applications, letters, judgments, orders for judgments, arguments of Counsel, and other documents relating or in anywise appertaining to the application to the Railway Commission of Canada by the Dominion Atlantic Railway for leave to reduce railway train services between Kentville and Halifax in the Province of Nova Scotia, and in connection with the hearing of said application in February, 1924, by said Board of Railway Commissioners. Presented April 2, 1924. Mr. Martell.....*Not printed.*

133. Return to an Order of the House of the 24th March, 1924, for a return showing the names of all persons who acted in the service of, or as advisors to Canadian representatives at the recent Imperial Conference and Imperial Economic Conference in 1923, together with the sum paid to each for such service and for expenses. Presented April 2, 1924. Mr. Ryckman.....*Not printed.*

134. Copy of Report for the year 1923 of positions excluded under the provisions of Section 38B (2) from the operation of the Civil Service Act, 1918, as amended by Chap. 22, 11-12 Geo. V. Presented April 2, 1924.....*Not printed.*

135. Return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, letters, telegrams and other documents relating to the closing of the Post office at Despres Road, Kent County, New Brunswick. Presented April 3, 1924. Mr. Doucet .. .. *Not printed.*

136. Return to an Order of the House of the 19th March, 1924, for a copy of all correspondence, telegrams, agreements and other documents, exchanged between any person or persons, or corporations, or banks, and the Department of Finance or any other Department of the Government, relating to the responsibility and liability of the Banks in holding or keeping Victory Bonds issued in favour of private individuals or corporations. Presented April 4, 1924. Mr. Steedsman.....*Not printed.*

137. Return to an Order of the House of the 3rd April, 1924, for a return showing: 1. The names of the Officials in the Department of Health at Ottawa, and their respective salaries. 2. The number of persons in the employ of the said Department, inside and outside service, during the fiscal years 1921-22, 1922-23, 1923-24. Presented April 7, 1924. Mr. Anderson.....*Not printed.*

138. Return to an Order of the House of the 20th March, 1924, for a Return showing: 1. Whether the Government purchased within the last year a property in Ottawa on York Street, known as the Ottawa Wine Vaults building. 2. If so, at what price. 3. The previous city assessment on the building. 4. The owners of said building. 5, With all the unoccupied Government property in Ottawa. what the urgency was of purchasing this property. 6. What it is used for at present. Presented April 8, 1924. Mr. Hanson.....*Not printed.*

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139. Return to an Address to His Excellency the Governor General of the 24th March, 1924, for a copy of all correspondence, telegrams and other documents, passing in the year 1923 between the Prime Minister or the Government and the Government of New Brunswick, requesting freight rate concessions to the Maritime Provinces. Presented April 9, 1924. Hon. Mr. Baxter.....*Not printed.*

140. Return to an Order of the House of the 20th March, 1924, for a Return showing: 1. Whether the Canadian National Railways pays to the City of Montreal yearly any sum by way of taxation or otherwise in respect to property formerly belonging to the Grand Trunk Railway and now occupied and used by the Canadian National Railways. If so, how much and on what basis such payment is made. 2. The assessed value of such property before the same was taken over by the Canadian National Railways, and the rate at which the same was taxed. At what sum such property is rated to-day and whether any distinction as to assessment is made between it and other taxable property in the city. 3. What representations, if any, were made by any Minister of the Crown as to the future taxation by the City of Montreal of the properties of the Grand Trunk at or previous to the taking over of the same by the Canadian National Railways or the Crown. 4. What sums, if any, the Canadian National Railways pays to the City of Prince Rupert as taxes or otherwise in respect to Railway Terminals or other property formerly belonging to the Grand Trunk Pacific Railway Company and now the property of the Canadian National Railways. 5. At what amount such properties are valued for assessment and at what rates they are taxed and whether such valuations and rates differ from those in respect to other taxable properties in the city. 6. Whether the Canadian National Railways pays any sums whether as taxes or otherwise to other cities and municipalities in Canada in respect to properties belonging to the Grand Trunk Railway or to the Grand Trunk Pacific Railway Company. If so, what—giving places, and amounts paid in each. 7. Whether the Canadian National Railways pays to the City of Portland, Maine, any sums as taxes in respect to the railway terminals and other properties in that city, formerly the property of the Grand Trunk Railway Company. If so, how much. At what value such property is assessed for city taxes and what rate it pays, and whether such valuation and rate differ from those in respect to other taxable properties in the city. 8. What payments, if any, are made by the Canadian National Railways to other municipalities in the State of Maine, in respect to properties formerly belonging to the Grand Trunk Railway Company. 9. Whether the Canadian National Railways pays yearly to the City of Halifax by way of taxes or otherwise any sums in respect to the properties owned and used by it as Railway Terminals. 10. Whether the Canadian National Railways is leasing or renting to any persons for business or residential purposes any of the properties expropriated by the Crown in connection with the extension of the Railway to the Ocean Terminals so called. If so, what revenue is derived therefrom, and whether any taxes are paid to the City of Halifax in respect to such properties. Presented April 10, 1924. Mr. Black (Halifax).....*Not printed.*

141. Return to an Order of the House of the 14th April, 1924, for a Return showing: 1. Names of the officials and other employees of the Immigration staffs in (*a*) Great Britain; (*b*) Europe; (*c*) United States. 2. Cost of this service during the fiscal year 1923 in the countries mentioned. 3. What countries, if any, in Europe, have been added to the preferred zone of immigration during the past year. Presented April 14, 1924. Mr. Garland (Carleton).....*Not printed.*

142. Report on Agricultural Credit, by H. M. Tory, Administrative Chairman of the Honorary Advisory Council for Scientific and Industrial Research, dated April 4, 1924. Presented April 15, 1924.

Printed for Sessional Papers and distribution to Senators and Members.

143. Copy of a letter received from the Agent of the Department of External Affairs of Canada at Washington, D.C., United States, enclosing copy of H. J. Resolution 204, requesting the President to invite the Interparliamentary Union to meet in Washington City in 1925, and authorizing an appropriation to defray the expenses of the meeting, together with copy of Report No. 475. Presented April 15, 1924.....*Not printed.*

144. Return to an Order of the House of the 9th April, 1924, for a Return showing: 1. The total amount of tolls collected in 1923, on the Victoria bridge between Montreal and St. Lambert. 2. The total expenditure on said bridge, in 1923, for

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(*a*) maintenance, (*b*) salaries, (*c*) repairs. 3. The tolls collected on said bridge accruing from (*a*) railways, (*b*) electric tramways, (*c*) motor cars, (*d*) all other vehicles, (*e*) pedestrians. 4. How many motor cars crossed the bridge during said year. 5. How many motor cars crossed the bridge during the months of June, July, August, September and October, 1923, respectively. Presented April 16, 1924. Mr. Archambault.....*Not printed.*

145. Return to an Order of the House of the 9th April, 1924, for a return showing (*a*) the number of tons of freight handled by the Canadian National Railways in and out of Portland during 1922 and also 1923; (*b*) the number of tons of freight handled by the same railway company during the same years in and out of St. John, New Brunswick, and in and out of Halifax; (*c*) the number of tons of freight handled by the Canadian Pacific Railway during the same years in and out of St. John, New Brunswick. Presented April 16, 1924. Mr. MacLaren.
Not printed.

146. Return to an Order of the House of the 24th March, 1924, for a copy of correspondence dated July 14th, 1922, and July 28th, 1922, respectively, and addressed from Charles Blake, Barrister, of Brandon, Manitoba, to the Minister of Justice, relating to the withdrawal of professional work for the Government service formerly performed by the said Charles Blake; and copies of the replies of the Minister of Justice to the letters mentioned above. Presented April 16, 1924. Hon. Mr. Manion.....*Not printed.*

147. Copy of the Reports of Leslie H. Boyd, Chairman of the Board of Grain Commissioners, and George Serls, Chief Grain Inspector for Canada, on complaints received respecting the condition of grain shipped from Canadian ports and from United States ports in bond to Great Britain. Presented April 24, 1924.
Printed for distribution to Senators and Members.

148. Return to Order of the House of the 7th April, 1924, for a return showing a statement of the financial operations of the various hotels operated by the Canadian National Railways during 1923. Presented April 24, 1924. Mr. Wilson.
Not printed.

149. Return to an Order of the House of the 9th April, 1924, for a return showing all properties sold by the Canadian National System or any company incorporated therein or operated thereby during the years 1922 and 1923, and showing the dates of such sales, the names and addresses of purchasers and the consideration paid in each case. Presented April 24, 1924. Sir Henry Drayton.....*Not printed.*

150. Return to an Order of the House of the 20th March, 1924, for a copy of all letters, telegrams and other documents exchanged between the Government and Mr. John Sloan, Mattawa, Ontario, or his legal advisers, relating to the indemnity which he received due to the accident that happened to him while engaged on the Government works at Temiskaming Dam. Presented April 24, 1924. Mr. Lapierre.....*Not printed.*

151. Return to an Order of the House of the 31st March, 1924, for a copy of all papers, correspondence, telegrams and other documents in the possession of the Government, with reference to the case of Private John J. Quilty, No. 3257368, so far as the same deals with his enlistment and discharge, and including any correspondence with the Canadian Pacific Railway with reference to an alleged forgery of documents in connection with his case. Presented April 24, 1924. Hon. Mr. Baxter.
Not printed.

152. Return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, letters, telegrams, engineering reports, estimates and other documents relative to the proposed public building at Buctouche, Kent County, New Brunswick. Presented April 24, 1924. Mr. Doucet.....*Not printed.*

153. Return to an Address to His Excellency the Governor General of the 24th March, 1924, for a copy of all memoranda, correspondence, telegrams and other documents exchanged between the Government of Canada or any of its members and other governments, corporations, or individuals, relating to the establishment of an Ore-testing plant in the Province of British Columbia. Presented April 24, 1924. Mr. Humphrey.....*Not printed.*

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154. Return to an Address to His Excellency the Governor General of the 9th April, 1924, for a copy of all correspondence, telegrams, and other documents exchanged between the Minister of Agriculture of the Dominion, or any officer in his department, and the Minister of Agriculture of British Columbia, or any officer in his department, regarding the regulations respecting the grading and marking of eggs. Presented April 25, 1924. Hon. Mr. Stevens.....*Not printed.*

154*a*. Return to an Order of the House of the 19th May, 1924, for a copy of reports of inspectors of the Agricultural Department residing in British Columbia, to the Minister of Agriculture, or any of his officers in Ottawa, regarding breaches of the regulations of the Egg Marking Act from date of the passing of said Act to May 1st, 1924. Presented June 16, 1924. Hon. Mr. Stevens.....*Not printed.*

155. Return to an Order of the House of the 16th April, 1924, for a copy of all correspondence, petitions and other documents between the Department of Agriculture and the Pure-Bred Stock Breeders of Nova Scotia, with regard to the experimental farms at Kentville and Nappan in the province of Nova Scotia. Presented April 25, 1924. Mr. Bowen.....*Not printed.*

156. Return to an Order of the House of the 10th April, 1924, for a Return showing: 1. The total revenues of the Government from the City of Toronto, including the Canadian National Railways, for the past three years, from (*a*) Post Office; (*b*) Customs and Excise; (*c*) Income Tax; (*d*) Sales Tax; (*e*) other Federal revenues than the above; (*f*) the revenues of Canadian National Railways (Toronto). 2. What have been the grants to the Canadian National Exhibition and the Royal Agricultural Winter Fair for the past four years. 3. What sums have been spent within and without Canada on Fall Fairs and Exhibitions for the past four years, and for this year. Presented April 28, 1924. Mr. Church.....*Not printed.*

157. Return to an Address to His Excellency the Governor General of the 19th March. 1924, for a copy of all correspondence, papers, applications, agreements, letters and other documents exchanged between the Government of Ontario and the Hydro Electric Commission of Ontario and the Government of Canada, relating to the construction of a power dam on the St. Lawrence River near the town of Morrisburg for the generation of electric power for the use of the people of the Eastern part of the Province of Ontario. Presented April 28, 1924. Mr. Church.
Printed for distribution to Senators and Members and Sessional Papers.

158. Return to an Order of the House of the 19th March, 1924, for a copy of all correspondence and other documents referring to coal lease 2241, and all correspondence between J. H. Thornton and the Department of Interior in reference thereto. Presented April 28, 1924. Hon. Mr. Stevens.....*Not printed.*

159. Return to an Order of the House of the 7th April, 1924, for a return showing (*a*) the number of officials employed at Ottawa in the Government of Northwest Territories Branch of the Department of the Interior; (*b*) the official classification of each of such officials; (*c*) the aggregate salaries paid said officials; (*d*) the same information as to officials employed at Ottawa in the Mining Lands and Yukon Branch of the Department of the Interior. Presented April 28, 1924. Mr. Black (Yukon).....*Not printed*

160. Return to an Order of the House of the 19th March, 1924, for a copy of all correspondence between any officials of the Department of the Interior, and all other correspondence in possession of the Government, concerning the sessional indemnity of members of the Yukon Council, such correspondence being dated since January 1st, 1922. Presented April 28, 1924. Mr. Black (Yukon).....*Not printed.*

161, 161*a*. Return and supplementary Return to an Order of the House of the 19th March, 1924, for a Return showing: 1. Names, ranks, occupations, ages, date of appointment, addresses of the employees of the Soulanges Canal, and where they are employed. 2. The names of the candidates who applied for each of the positions vacated in the above service, and who recommended those who were appointed to fill said vacancies. 3. In what localities notices were posted for application to said positions filled since January, 1921. 4. Who posted the said requests for applications. Presented April 29 and May 15, 1924. Mr. Ouimet.....*Not printed.*

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162. Return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, letters, telegrams and other documents passing between the Government and American vessel owners, or vessel owners' organizations, since the passing of the Inland Lake Freights Bill, and relating to the carriage of freight on the Great Lakes and the compliance or non-compliance with the provisions of such Act. Presented April 29, 1924. Mr. MacKelvie.
Printed for distribution to Senators and Members and Sessional Papers.

163. Copy of Order in Council, P.C. 611, dated 12th April, 1924, amending Air Regulations, 1920, in accordance with Section 4 (3) of the Air Board Act. Presented April 29, 1924.....*Not printed.*

164. Return to an Order of the Senate, dated April 10, 1924, for a Return showing: 1. Name and rank of all commissioned officers employed here at Ottawa, connected with the Royal Canadian Mounted Police. 2. Salaries paid to each officer. 3. In detail, statement of all other allowances made to each officer. 4. Number of batmen allowed or employed by each officer. Are they employed around the homes of the officers. 5. Names of officers supplied with automobiles. 6. What make and style of automobiles are supplied, and cost of same. 7. Cost of upkeep of each car. Are these cars used exclusively for official business. 8. Are cars used by officers' families. The same information is required regarding the Department of National Defence. Presented April 29, 1924. Hon. Mr. Planta.....*Not printed.*

165. Return to an Order of the House of the 14th April, 1924, for a copy of all correspondence, since January, 1922, between the Department of Indian Affairs and Mr. Ditchburn, representative of the Department in British Columbia, and Members of Parliament, or others, in connection with the dismissal of C. A. Cox. Presented April 30, 1924. Hon. Mr. Stevens.....*Not printed.*

166. Return to an Order of the House of the 7th April, 1924, for a Return showing: 1. Whether the Government employed resident and visiting physicians at the Ste-Anne-de-Bellevue Military Hospital during the years 1921, 1922 and 1923, and if so, what their names are. 2. What remuneration each one received. 3. Resident and visiting physicians for the year 1924. 4. Whether they receive an annual salary or a fee for each visit, and how much. Presented April 30, 1924. Mr. Jones..*Not printed.*

167. Return to an Order of the House of the 27th March, 1924, for a Return showing: 1. How many appointments with a salary of $3,000 or more the Government has made since coming into power. 2. What position does each appointee fill. 3. What the salary is in each case. 4. What the new positions created are. Presented April 30, 1924. Mr. Hodgins.....*Not printed.*

168. Return to an Order of the House of the 14th April, 1924, for a Return showing: 1. How many returned soldiers have been employed through appointment by the Civil Service Commission (*a*) since January 1, 1922; and (*b*) prior to January 1, 1922. 2. What proportion of appointments made by the Civil Service Commission between January 1, 1919, and January 1, 1922, were awarded to returned soldiers. 3. What proportion of appointments made by the Civil Service Commission since January 1, 1922, were awarded to returned soldiers. Presented April 30, 1924. Mr. Clark.....*Not printed.*

169. Return to an Order of the House of the 27th March, 1924, for a Return showing: 1. What Royal Commissions have been appointed since the present Government came into office. 2. How much each Commission has cost the country—(*a*) in remuneration to the Commissioners; and (*b*) in expenses or other outlay. 3. What of these Commissions are now in existence. Presented April 30, 1924. Rt. Hon. Mr. Meighen. .....*Not printed.*

170. Return to an Order of the Senate of April 30, 1924, for a Return showing the number of Dominion officials and employees in the Yukon Territory of all kinds, their positions, duties, salaries, allowances and expenses; also the present population of the territory, the total revenues derived therefrom and the sources thereof. Presented April 30, 1924. Sir George Foster.....*Not printed.*

171. Return to an Order of the House of the 14th April, 1924, for a Return showing: What amount has been voted to develop each of the following ports,—Vancouver, Toronto, Montreal and Quebec, and what amount has been spent up to date in connection with each of these ports. Presented May 1, 1924. Mr. Lavigueur.....*Not printed.*

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172. Return to an Order of the House of the 14th April, 1924, for a copy of all reports, recommendations, papers, contracts, letters, telegrams and other documents from Sir Henry Thornton, President of the National Railways, relating to the carrying out of the viaduct agreement at Toronto, and all replies of the Government thereto; also copy of all correspondence with the Canadian Pacific Railway, if any, or from the city of Toronto or the Harbour Commission of Toronto on this question. Presented May 1, 1924. Mr. Church. .....*Not printed.*

173. Return to an Order of the House of the 31st March, 1924, for a Return showing: 1. The estimated value of the Dominion owned real property situated in, (*a*) the City of Halifax; (*b*) the County of Halifax outside of the city under the direction or control of, (1) Department of Public Works; (2) Department of National Defence; (3) Post Office Department; (4) The Canadian National Railways; (5) other Government Departments, respectively. 2. Since the consolidation of the Intercolonial Railway with the Canadian National system whether there has been any change in the assessment of the property formerly belonging to the Intercolonial. 3. If so, what change. 4. Whether the system pays any municipal tax in the Province of Nova Scotia. 5. If so, what municipal taxes are paid in Halifax City and County. 6. Whether there is any difference so far as taxation is concerned in the Province of Nova Scotia in assessment and taxation of property formerly owned by the Intercolonial and the property of the other lines of the Canadian National Railway system. Presented May 1, 1924. Mr. Black (Halifax). *Not printed.*

174. Return to an Order of the House of March 31, 1924, for a copy of all letters, telegrams, documents, correspondence and contract, if any, between the Minister of Public Works or any official of the Department of Public Works, or any other Minister or official of the Government, and the Northern Navigation Company, or Member for North Essex. or other parties, having reference to proposed harbour improvements at Belle River and referred to in Public Works vote 157. Also,—Return to an Order of the House of April 28, 1924, for a copy of all correspondence, petitions, telegrams and other communications received by or passing from the Department of Public Works, respecting the proposed wharf or breakwater at Belle River, Ontario. Presented May 2, 1924. Hon. Mr. Stevens.....*Not printed.*

175. Return to an Order of the House of March 19, 1924, for a copy of all memorandums, correspondence, telegrams, and other documents, relating to the appointment of Light Keeper for Cedars Light, St. John River, Parish of Kingston, King's County, New Brunswick. Presented May 2. 1924. Mr. Jones.....*Not printed.*

176. Return to an Order of the House of April 7, 1924, for a Return showing: 1. Relative numbers of convictions for offences against the Opium and Narcotic Drugs Act in the various provinces of Canada in the years 1913-1914, 1917-1918, 1922-1923. 2. Numbers of convictions for violations of the Opium and Narcotic Drugs Act reported in the years 1920, 1921 and 1922 from the following cities: Halifax, Montreal, Toronto, Winnipeg, Victoria and Vancouver. 3. Number of inmates of the penitentiaries, if any, of Canada classed as drug addicts, during each of the years from 1914 to 1923, inclusive. 4. Official figures as to the quantities of opium, cocaine and morphine imported into Canada for each of the years from 1917 to 1923, inclusive. Presented May 2, 1924. Mr. Brown.....*Not printed.*

177. Return to an Address to His Excellency the Governor General, of March 19, 1924, for a copy of all Orders in Council passed since the last Session of Parliament relating to the question of an embargo on Pulpwood, and of all correspondence, telegrams or other documents relating thereto, exchanged between the Government of Canada or any member thereof and any person, firm, company or corporation, including the Canadian Pulp & Paper Association or the American Pulp & Paper Association. Presented May 2, 1924. Mr. Hanson.....*Not printed.*

178. Return to an Order of the House of March 20, 1924, for a Return showing: 1. The members of the Royal Commission on Pulpwood. 2. Salary of each, the total cost of the Commission to date and the cost per day. 3. What previous experience or training each of the said members has had in forestry or in the pulpwood business. 4. What witnesses have been heard, and their addresses, names and occupations. 5. Whether the said Commission is authorized to enquire into the question of the export of fir, cedar or other logs to the United States from the Province of British

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Columbia. 6. If so, whether the Government has directed such enquiry or whether the Government has received requests that such enquiry be carried out in the interests of the manufacture of lumber and shingles in British Columbia. 7. At whose request or upon what information the Order in Council of June 10th, 1923. was passed exempting pulpwood sold or to be sold for a period of ten years from any embargo which might be enacted. 8. Whether the Government promised to exempt farmers' pulpwood from a possible embargo. 9. Whether the Forestry Branch of the Department of Interior and the Provincial Government Forests Services has full information relative to the subject matter authorized to be enquired into by the said Royal Commission. Presented May 2, 1924. Mr. Ladner.....*Not printed.*

179. Copy of Order in Council, P.C. 701, dated 29th April, 1924, disallowing an Act passed by the Alberta Legislature in 1923, intituled: "An Act to impose a tax upon Minerals"; also, report of the Minister of Justice thereon; petitions that have been received with regard to this Act; and the representations made by the Attorney General of Alberta. Presented May 2, 1924.....*Not printed.*

179*a*. Return to an Order of the House of the 19th May, 1924, for a copy of all memoranda, legal opinions, letters, reports or other documents, relating to the disallowance of a Statute of the Province of Alberta, being Chapter 32 of the Statutes enacted in the year 1923, and entitled "An Act to impose a tax upon Minerals." Presented June 10, 1924. Mr. Coote.....*Not printed.*

180. Return to an Address to His Excellency the Governor General of the 19th March. 1924, for a copy of all correspondence, petitions, protests, letters, resolutions and other documents exchanged between the Government and any person or persons or organizations, or Provincial Governments or other public bodies in Canada, protesting against the illegal Diversion of the Waters of the Great Lakes by the Chicago Drainage Commission and of any and all correspondence with the Government of the United States, the Joint International Commission or others on the subject. Presented May 5, 1924. Mr. Church.

Printed for distribution to Senators and Members and Sessional Papers.

181. Return to an Order of the House of the 7th April, 1924, for a copy of all subsidy contracts between the Government and any or all contractors for steamship service between Pictou, Souris, Prince Edward Island and Magdalen Islands, during the years 1910 to 1921. Presented May 5, 1924. Hon. Mr. Stevens.....*Not printed.*

181*a*. Return to an Order of the House of the 7th April, 1924, for a copy of all correspondence, telegrams, letters and other documents, since the 1st of January, 1922, passing between the Honourable Minister of Trade and Commerce, or any other Minister of the Government, or any Official of the Department of Trade and Commerce, and the Magdalen Island Transport Limited, William Fraser of Pictou, the Lovat Steamship Company, Limited, the Eastern Securities Company, Limited, of Halifax; Messrs. Bow, McLaughlin and Company, Limited, of Paisley, Scotland, having reference to a steamship service subsidy between Pictou, Souris, Prince Edward Island and Magdalen Islands; also copy of alleged contract between said William Fraser and the Government covering a subsidy of $50,000 payable annually for ten years. Presented May 15, 1924. Hon. Mr. Stevens.....*Not printed.*

182. Return to an Order of the House of the 14th April, 1924, for a copy of all correspondence exchanged between the Minister of Marine and Fisheries, the Government of Canada, the Civil Service Commission and all other persons since the first day of January, 1923, on the subject of the dismissal of Mr. Lemelin, lighthouse-keeper at St. François, Ile d'Orleans, and the nomination of a new lighthouse-keeper. Presented May 5, 1924. Mr. Doucet.....*Not printed.*

183. Return to an Order of the House of the 5th May, 1924, for a Return showing: 1. How many appointments have been made by the Civil Service Commission, inside and outside, in the year 1922. 2. How many of such appointments were made in 1923. 3. How many of such appointments have been made in 1924. 4. How many increases in salary (outside of statutory increases) have been made in the Civil Service, inside and outside, since December 29, 1922. 5. How many requisitions have been made to the Civil Service Commission for new appointments to the Civil Service since December 29, 1922. 6. Of these requisitions, how many have been made in the months of January and February, 1924. 7. The total amount in annual salary of the new appointments to the Civil Service since December 29, 1922. Presented May 5, 1924. Mr. Sutherland.....*Not printed.*

CONTENTS OF VOLUME 7—*Continued*

184. Return to an Order of the House of the 19th March, 1924, for a Return showing: 1. Total number of employees on pay or allowance connected with the Department of Agriculture on January 1 of each of the years from and including the year 1914 to the year 1924. 2. Amounts paid out or due in pay or allowance to said employees and the dates and years as above. Presented May 6, 1924. Mr. Sutherland. *Not printed.*

184*a*. Return to an Order of the House of the 12th May, 1924, for a Return showing: 1. Total number of employees, and the total salaries paid such employees on January 1, 1922, and also January 1, 1924, in the following branches of the Department of Agriculture, giving the total number employees and salaries for each branch, respectively, (*a*) Civil Government both Permanent and Temporary; (*b*) Agricultural Instruction; (*c*) Entomology; (*d*) Dairy General; (*e*) Cow Testing; (*f*) Finch Creamery; (*g*) Extension of Markets; (*h*) Destructive Insect and Pest; (*i*) Production and Sale of Tobacco; (*j*) Fruit Industry; (*k*) Contagious Diseases; (*l*) Meat and Canned Food Division; (*m*) Live Stock Industry; (*n*) Seed Control. 2. Whether there has been one or more new branches added to Department of Agriculture since January 1, 1922. 3. If so, names of same, and number of employees in each branch or branches so established in detail same as Question No. 1. Presented May 21, 1924. Mr. Sutherland.....*Not printed.*

185. Return to an Address to His Excellency the Governor General of the 9th April, 1924, for a copy of all correspondence, telegrams, writings, or other documents, passing between the Department of External Affairs and the British Government with respect to the naval base at Singapore. Presented May 6, 1924. Rt. Hon. Mr. Meighen. ....*Not printed.*

186. Return to an Order of the House of the 21st February, 1923, for a copy of all correspondence, reports, papers, and other documents relating to the overcharging of immigrants for supplies at the port of Quebec. Presented May 7, 1924. Mr. Charters. ....*Not printed.*

187. Return to an Order of the House of the 24th April, 1924, for a Return showing: 1. Why the Woodward elevator at Vancouver was taken over by the Vancouver Harbour Commission. 2. Whether the said elevator has been leased to other parties. If so, what the names and addresses are of the lessees and on what terms the said elevator was leased by the Vancouver Harbour Commission to the said parties, and to what uses the said lessees propose to put the said elevator. 3. Whether the Government has sanctioned the leasing of this elevator. 4. Whether the Government has furnished moneys to the Harbour Commission for the acquisition of this elevator, or whether the Government has consented that any moneys advanced to the Vancouver Harbour Commission should be used for this purpose, or for completion and equipment of said elevator. 5. If it was advisable, either in the interest of the Grain traffic or the port of Vancouver, to acquire this elevator, why it is not to be operated by the Vancouver Harbour Commission. Presented May 7, 1924. Mr. Coote. .....*Not printed.*

187*a*. Return to an Order of the House of the 28th April, 1924, for a copy of all correspondence, telegrams, agreements, leases, or other documents, passing between the Vancouver Harbour Commission or the Federal Government, and any other parties in connection with the purchase and lease of the Woodward Elevator at Vancouver. Presented June 23, 1924. Mr. Gardiner.....*Not printed.*

188. Return to an Order of the House of the 28th April, 1924, for a copy of all correspondence, telegrams, and other documents, passing to and from the Department of Marine and Fisheries with regard to the dismissal of Daniel S. McLean from the position of lighthouse-keeper at Darby Point (Piper Cove) in the province of Nova Scotia, and if an investigation was held a copy of the evidence given and the investigator's report. Presented May 7, 1924. Mr. Simpson.....*Not printed.*

189. Return to an Order of the House of the 2nd April, 1924, for a copy of all correspondence between Dr. R. A. McGibbon, Superintendent of Soldiers' Civil Re-establishment hospital at St. Annes, and any member of the Government, or between any member of the Government and any other party, with regard to the retirement of said Dr. McGibbon from his position as Superintendent, together with the reasons for such retirement. Presented May 7, 1924. Hon. Mr. Manion.....*Not printed.*

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190. Return to an Order of the Senate, dated April 4, 1924, for a Return showing: Copies of all regulations and recommendations made by the Civil Service Commission during 1919 and since that year, dealing with the hours of work in the Civil Service at Ottawa. And of all Orders in Council in reference to such regulations or recommendations. and of all correspondence between the Government and the Civil Service Commission in relation to such regulations and recommendations. Presented May 7, 1924. Hon. Mr. Tanner .....*Not printed.*

191. Return to an Order of the House of the 19th March, 1924, for a return giving a copy of all correspondence, memoranda and other documents relating to the closing of the Post Office at Belleisle Creek, King's County, and the opening of a new Post Office in its stead; and including all information in the possession of the Department as to the cost occasioned thereby; also for copy of all correspondence, tenders and other documents in connection with Rural Routes numbers one, two and three, in relation to the closing of the old Post Office and the opening of the new; and of all correspondence and other records in connection with the appointment of a Postmaster at Belleisle Creek. Presented May 8, 1924. Mr. Jones.....*Not printed.*

192. Return to an Order of the House of the 7th April, 1924, for a return showing the total amount collected under the Business Profits tax in the various provinces during each of the years since the tax was introduced. Presented May 8, 1924. Mr. Wilson. ....*Not printed.*

193. Return to an Address to His Excellency the Governor General, of the 14th April, 1924, for a copy of all correspondence and other documents between the Dominion Government and the Government of Nova Scotia in respect to construction of the Port Joli-Sable Island Road, Nova Scotia, and federal aid thereto; also copies of estimates, engineers' reports, applications for federal aid, vouchers and other documents relating to said matters. Presented May 8, 1924. Mr. Black (Halifax). *Not printed.*

194. Return to an Order of the House of the 7th April, 1924, for a return showing (*a*) the total amount of income tax collected in each province during each year since the tax has been collected, and (*b*) the total amount of income tax paid by farmers in each of the provinces during these years. Presented May 8, 1924. Mr. Wilson. *Not printed.*

195. Return to an Order of the Senate, dated April 30, 1924, for a report showing the quantity and value of alcoholic beverages imported per month in each province of the Dominion, during the period extending from January 1, 1923, to March 1, 1924, distinguishing between: (*a*) Liquors, (*b*) Wines, (*c*) Drugs, and indicating the alcoholic percentages of each category and the countries from which they come, respectively. Presented May 8, 1924. Hon. Mr. Beaubien.....*Not printed.*

196. Return to an Order of the House of the 28th April, 1924, for a copy of all correspondence, documents and engineers' reports relating to the purchase, sale or expropriation of the wharf of St. Placide, in the county of Two Mountains. Presented May 9, 1924. Mr. Ethier.....*Not printed.*

197. Return to an Order of the House of the 5th May, 1924, for a return showing all financial statements made by E. A. Field, Land Commissioner, Canadian National Railway Company, Land Department, Winnipeg, Manitoba, in reference to land sales for the years 1922 and 1923, showing the amount of cash received and disbursed and showing all expenses, with a list of employees' salaries, expenses, commissions paid, rentals and net profit or loss. Presented May 9, 1924. Mr. Hanson. *Not printed.*

198. Return to an Order of the House of the 28th April, 1924, for a copy of all reports, statements, notices, telegrams and other documents in the possession of the Department of Railways, relating to the request for the granting and the payment of a double subsidy in money, in connection with the construction of the Canada and Gulf Terminal Railway Company, formerly known as the Matane and Gaspé Railway, during the years from 1900 to 1912, inclusive. Presented May 9, 1924. Mr. Gauvreau. ....*Not printed.*

CONTENTS OF VOLUME 7—*Continued*

199. Return to an Address to His Excellency the Governor General, of the 14th April, 1924, for a copy of all correspondence between the Dominion Government and the Government of Nova Scotia in respect to construction of the St. Margaret's Bay Road, Nova Scotia, and federal aid thereto; also copies of estimates, engineers' reports, applications for federal aid, vouchers and other documents relating to said matters. Presented May 9, 1924. Mr. Black (Halifax).....*Not printed.*

200. Return to an Address to His Excellency the Governor General, of the 28th April, 1924, for a copy of all correspondence, letters, telegrams, writings, or other documents, exchanged between the Department of the Attorney General of the Province of Quebec and the Department of Justice concerning the fees payable to official sequestrators. Presented May 9, 1924. Mr. Ryckman.....*Not printed.*

201. Return to an Order of the House of the 14th April, 1924, for a copy of all correspondence, petitions, telegrams and other documents relating to certain representations made to the Department of Marine and Fisheries for the granting of a fall season to the lobster fishermen in the County of Gloucester, during the fishing season of 1923. Presented May 9, 1924. Mr. Robichaud.....*Not printed.*

202. Copy of directions given to the Warden of St. Vincent de Paul Penitentiary suspending the sentence of the lash to Raoul Beauchamp, convict; also copy of Memorandum from the Deputy Minister of Justice respecting appeals against sentences giving the lash, and removal to the penitentiary pending appeal against conviction. Presented May 9, 1924.....*Not printed.*

203. Report of the Royal Commission on Pensions and Re-establishment—Second Interim Report on Second Part of Investigation (certain questions relating to pensions, medical treatment and re-establishment needs of Canadian ex-service men and their dependents). Presented May 12, 1924.
Printed for distribution to Senators and Members and Sessional Papers.

203*a*. Report of the Royal Commission on Pensions and Re-establishment—Final Report on Second Part of Investigation (Report No. 4). Presented July 18, 1924.
Printed for distribution to Senators and Members and Sessional Papers.

204. Return to an Order of the House of the 14th April, 1924, for a copy of all correspondence exchanged between any members of the Government and Members of Parliament, engineers, or representatives of Government, or other party or parties during the years 1921, 1922 and 1923, in relation to the wharf, piers and warehouse at Moser's River, Halifax County, Nova Scotia (Necum Teuch). Presented May 12, 1924. Mr. Black (Halifax).....*Not printed.*

205, 205*a*. Return and supplementary return to an Address to His Excellency the Governor General of the 19th March, 1924, for a copy of all correspondence exchanged between the Department of Marine and Fisheries and J. Bte. Levesque of Trois Pistoles, Quebec, during the year 1923, and also correspondence between the Government and any Department of the Government of Quebec with respect to the said Levesque. Presented May 13, and July 19, 1924. Mr. Doucet.
Not printed.

206. Return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, telegrams, engineering reports, estimates of cost and other documents in connection with the proposed public wharf at Buctouche Bay, Kent County, New Brunswick. Presented May 13, 1924. Mr. Doucet.....*Not printed.*

207. Return to an Order of the House of the 12th May, 1924, for a Return showing: 1. Medical Advisers of the Pension Board. 2. War Record of each. 3. Medical Advisers of the Federal Appeal Board. 4. War Record of each. 5. Special Training of the Neurologists of the Board. Presented May 14, 1924. Mr. Ross (Kingston).....*Not printed.*

208. Return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, letters, telegrams and other documents to and from the Department of Marine and Fisheries relating to the extension of Smelt Fishing in New Brunswick during the season 1923-24. Presented May 14, 1924. Mr. Doucet.....*Not printed.*

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209. Return to an Order of the House of the 14th April, 1924, for a Return showing: 1. At whose request the Order in Council No. P.C. 2263, published in *The Canada Gazette* of January 12, page 2348, was passed. 2. Quantities of military clothing sold by the Government during the years 1917 to 1923, inclusive. 3. To whom this material was sold. Presented May 15, 1924. Mr. Thurston.....*Not printed.*

210. Return to an Order of the House of the 7th April, 1924, for a return showing a list of the properties purchased by or for the Militia Department during the years 1914 to 1921 inclusive, showing in each case from whom purchased, location, price, and for what purpose; also a list of any of these properties which have been sold, showing the price received for same. Also showing revenue received from any of the above properties, the amount in each case and from whom received. Presented May 15, 1924. Mr. Thurston.....*Not printed.*

211, 211*a*. Partial Return and Supplementary Return to an Order of the House of the 7th April, 1924, for a copy of all contracts and agreements entered into by the Canadian Government or any Department thereof with the American Bank Note Company, Limited, now the Canadian Bank Note Company, Limited, carrying on business in the city of Ottawa. Presented May 15 and 21, 1924. Mr. Irvine. *Not printed.*

212. Copy of letter of Walter G. Mitchell, Esq., to the Right Honourable the Prime Minister, in respect to his resignation as member of Parliament, and the letter of the Prime Minister in acknowledgment thereof. Presented May 19, 1924. *Not printed.*

213. Return to an Order of the House of the 24th March, 1924, for a return of any and all reports of the Commissioner of Immigration to the Minister, upon the operation of the contract system for feeding immigrants at the Port of Quebec, and also all reports and correspondence with reference to the way in which that system is functioning at that port; and also all reports and correspondence in connection with the adoption of the contract system at the Port of St. John, New Brunswick, and in connection with the substitution of the system of Government supply for the contract system at the latter place. Presented May 19, 1924. Hon. Mr. Baxter.....*Not printed.*

214. Return to an Order of the House of the 7th April, 1924, for a return showing (*a*) the value of the production in Canada for the latest year for which returns are available of wheat, meat, butter, eggs, milk, hay, cheese, fruit, maple syrup, oats, barley, potatoes and other vegetables: (*b*) the estimated value of these products consumed at home during the same year, and (*c*) the value of these products exported during the same year. Presented May 19, 1924. Mr. Stansell.....*Not printed.*

215. Return to an Order of the House of the 12th May, 1924, for a Return showing: 1. Amount appropriated by the Government for the Hector celebration at Pictou, Nova Scotia, during the summer of 1923. 2. Extra amount, if any, appropriated for this celebration by the Department of National Defence. 3. Whether the Government has received a statement of the expenditure of this money. 4. If so, for wnat the money was used. Presented May 19, 1924. Mr. Black (Halifax)...*Not printed.*

215*a*. Return to an Order of the House of the 12th May, 1924, for a return showing the detailed expenditure of the money voted by Parliament of Canada at the last session for the Hector celebration at Pictou, Nova Scotia. Presented May 19, 1924. Mr. Doucet.....*Not printed.*

216. Return to an Order of the House of the 31st March, 1924, for a return showing properties rented for Governmental purposes in Ottawa and date when rented and date of expiry of lease, if any, giving floor space and annual rental in each case; also statement of vacant properties owned by the Government in Ottawa showing ground area, purchase price and annual carrying charge including taxes in each case. Presented May 20, 1924. Hon. Mr. Stevens.....*Not printed.*

217. Return to an Order of the House of the 27th March, 1924, for a Return showing: 1. What breweries have been operating in Manitoba within the period 1915-1924. 2. What requirements, if any, as to plant, capacity, etc., and what undertakings, if any, as to continuity of operation, observance of law, etc., are made of those

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securing brewer's licenses. 3. What fees are required to be paid for a brewer's license. 4. What additional brewer's licenses, if any, have been issued for Manitoba since July, 1923. 5. What inspection or supervision, if any, is made from year to year of brewer's plant or operation. 6. What quantities of beer were manufactured by each of the brewers in Manitoba in the years 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, and what taxes were paid by each in respect of these quantities. 7. What brewers, if any, in Manitoba were convicted of infractions of the law during the calendar years 1922 and 1923. 8. How many convictions for having or operating illicit stills occurred in Manitoba in each of the years 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922 and 1923. Presented May 20, 1924. Mr. Ward.....*Not printed.*

218. Return to an Order of the House of the 16th April, 1924, for a return showing the number of importations to which the Dumping Clause of the tariff has been applied during the fiscal year 1923-24, the class of goods to which it has been applied, the reasons therefor and the amount of duty collected. Presented May 20, 1924. Mr. Evans.....*Printed for distribution to Senators and Members.*

219. Return to an Order of the Senate dated May 9, 1924, for a Return to include copies of orders and letters of instruction authorizing J. C. Watters, during the present year, to make a survey of Industrial conditions in the coal mining districts of Nova Scotia, and other documents relating to such appointment showing the purpose and scope of investigation and survey to be made by him and the places in Nova Scotia in which he is to make the survey. Presented May 20, 1924. Hon. Mr. Tanner.....*Not printed.*

220. Return to an Order of the Senate dated May 1, 1924, for a return to include copies of Pay-Sheets, Vouchers and Correspondence, relating to expenditures on a Breakwater at Port La Tour, Shelburne County, Nova Scotia, during the calendar year 1923. Presented May 20, 1924. Hon. Mr. Tanner.....*Not printed.*

221, 221*a*. Returns to an order of the Senate dated April 3, 1924, for copies of all correspondence and other statements received by the Government of Canada, or any member of such Government, during 1923 and since from or on behalf of the Government of Nova Scotia in regard to transportation, commercial, economic and other public matters of interest to the said province, including any requests for investigation of the matters relating to said interests and also all correspondence and other statements by the Government of Canada, or any member thereof in response to such representations and requests. Presented May 20 and July 3, 1924. Hon. Mr. Tanner. .... *Not printed.*

222. Return to an Address to His Excellency the Governor General of the 24th March, 1924, for a return showing a copy of all Orders in Council or other authoritative orders or rules affecting the Sales Tax or making exemptions or rebates since the passing of the Sales Tax amendments to the War Revenue Act of last session. Presented May 21, 1924. Hon. Mr. Stevens.

Printed for distribution to Senators and Members.

223. Return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, telegrams, letters and other documents, exchanged between any Member of the Government and any Member of Parliament or other person with regard to the appointment of Richard Fordham as Junior Clerk-Stenographer in the Customs Department at Prince Albert, Saskatchewan, together with a copy of advertisements showing this position to be vacant by the Civil Service Commission; also a return showing date such advertisement was issued; date position was filled; number of applicants examined and all other details regarding said appointment. Presented May 21, 1924. Hon. Mr. Manion.....*Not printed.*

224. Return to an Order of the House of the 24th March, 1924, for a return showing all moneys paid to newspapers in Canada for printing and advertising since January 1, 1923, showing the names of the companies and the amounts paid each newspaper or newspaper company. Presented May 21, 1924. Mr. McQuarrie.....*Not printed.*

225. Return to an Order of the House of the 10th April, 1924, for a Return showing: 1. How many passenger automobiles have been purchased by the Government in each of the years 1922, 1923, 1924. 2. What make of car was purchased and the cost in

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each case. 3. How many are kept in the city of Ottawa. 4. What was the cost of upkeep in 1923 of such cars in the city of Ottawa. 5. What was the cost of upkeep in 1923 of such cars outside the city of Ottawa.

Return to an Order of the House of the 10th April, 1924, for a Return showing: 1. How many motor cars have been purchased by the Government for the use of Ministers since January 1, 1922. 2. What are their makes and models, and what was the cost of each car. 3. Who enjoys the sole use of each of these cars. 4. From whom were these cars purchased. 5. How many cars bought prior to January 1, 1922, are still in use, and by whom in each case. 6. Whether new cars were purchased within the period mentioned, what disposal was made of old cars, and what they brought in each case when sold.

Return to an Order of the House of the 10th April, 1924, for a Return showing: 1. What amount the Government spent in the purchase of automobiles for use of the different Departments, at Ottawa, for the years 1915, 1916, 1917, 1918, 1919, 1920, 1921, respectively. 2. To what Departments these automobiles were assigned during said years. 3. The cost to Canada during the said respective years for (*a*) the wages of chauffeurs for said Departmental automobiles; (*b*) the uniforms and gloves of chauffeurs; (*c*) the upkeep and repairs of said automobiles; (*d*) the purchase of gasoline, oil, tires, etc. 4. Whether the automobile service gave satisfaction to those using them. Presented May 21, 1924. Messrs. Maybee, Chaplin, Benoit.
Not printed.

226, 226*a*. Return and Supplementary return to an Order of the House of the 12th May, 1924, for a copy of all letters, telegrams and other documents, passing between the Minister of Marine and Fisheries, or any official of the Department of Marine and Fisheries, including Inspector Halliday of New Westminster and the Member for Chilliwack and Member for Skeena, or any other Member of the Dominion House, relating to the removal of the fisheries office from Vancouver, or the position of the Chief Inspector of Fisheries in British Columbia. Presented May 21 and July 14, 1924. Hon. Mr. Stevens.....*Not printed.*

227. Return to an Address to His Excellency the Governor General of the 5th May, 1924, for a copy of an Order in Council or orders or regulations of the Minister of Customs affecting valuations for the purpose of assessing dumping duty. Presented May 21, 1924. Mr. Boys.....*Printed for distribution to Senators and Members.*

227*a*. Return to an Order of the House of the 14th April, 1924, for a copy of all regulations made by the Minister of Customs under S.S. 5, Sec. 6, Chapter 11, Statutes of Canada, 1907, An Act to amend the Customs Act. Presented May 21, 1924. Mr. Coote. ..... *Printed for distribution to Senators and Members.*

228. Return to an Order of the Senate dated May 9, 1924, for a Return showing: Copy of the log book of the SS. *Sheba,* from August 5, 1914, to August 19, 1914, on her trip from Halifax to Port Nelson. Presented May 21, 1924. Hon. Mr. Casgrain.
Not printed.

229. Return to an Order of the House of the 5th May, 1924, for a copy of all letters, telegrams, documents and correspondence since January 1, 1923, between the Postmaster General, any official of the Post Office Department, any other Minister or official of the Government and other persons concerning the carrying of His Majesty's mail between Whitehorse and Dawson, Yukon Territory, for the winter of 1923-1924 and for the winter of 1924-1925. Presented May 23, 1924. Mr. Black (Yukon) ....*Not printed.*

230. Return to an Order of the House of the 12th May, 1924, for a copy of petition forwarded to the Minister of Justice on behalf of one, C. W. Monk, convicted in January, 1923, for illicit dealing in narcotic drugs. Presented May 23, 1924. Hon. Mr. Stevens. ....*Not printed.*

231. Return to an Order of the House of the 12th May, 1924, for a Return showing: 1. Number of employees at the Dorchester penitentiary, New Brunswick. 2. How many of these are French-Acadians. 3. How many of the latter are in superior positions. Presented May 23, 1924. Mr. Doucet.....*Not printed.*

232. Telegrams exchanged between the British and Canadian Governments in connection with the Lausanne Conference and Treaty. Presented May 26, 1924.
Printed for distribution to Senators and Members and Sessional Papers.

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233. Return to an Order of the House of the 12th May, 1924, for a copy of all letters, telegrams and other documents, passing between the Minister of Justice, Deputy Minister of Justice or any official of the Department of Justice, or Prime Minister or any official in the Office of the Prime Minister, and M. A. Macdonald, K.C., W. W. B. McInnes, regarding the appointment of a Commissioner to inquire into alleged improper handling of drugs by the Royal Canadian Mounted Police in British Columbia. Presented May 26, 1924. Hon. Mr. Stevens.....*Not printed.*

233*a*. Return to an Address to His Excellency the Governor General of the 12th May, 1924, for a copy of all letters, telegrams and other documents passing between the Minister of Justice and Attorney General of British Columbia, or any member of the Government of British Columbia, and any member or official of the Dominion Government, having reference to certain charges made against the officers of the Royal Canadian Mounted Police and investigated by Commissioner Smith, and also a copy of the report of the said Commission. Presented June 4, 1924. Hon. Mr. Stevens. .....*Not printed.*

234. Return to an Order of the House of the 14th April, 1924, for a copy of all reports, letters, telegrams and other documents, during the year 1917, from the resident engineer or any of his staff located at Fort Nelson to the Chief Engineer of the Department of Railways and Canals, or the Deputy Minister or the Minister or any official of the said department, having reference to the Hudson Bay Railway route and grain or other harbour facilities. Presented May 27, 1924. Hon. Mr. Stevens. .....*Printed for distribution to Senators and Members.*

234*a*. Copies of Engineers' Reports and Correspondence in the Department of Railways and Canals concerning the Hudson Bay Railway route. Presented June 9, 1924. *Printed for distribution to Senators and Members.*

235. Return to an Order of the House of the 7th April, 1924, for a Return showing: 1. Number of automobiles now under seizure by the Department of Customs. 2. Number of automobiles smuggled on the Canadian Border seized by the Department of Customs and now in possession of said department. 3. How many of these automobiles have been claimed by Insurance Companies on the ground that they have been stolen before they cross the border. 4. Why the department is refusing to deliver such automobiles to the owners after positive proofs of ownership have been made. 5. Whether there is any arrangement between the Canadian and American Governments regarding the recovery of said automobiles. 6. If so, what such arrangement is and when it was made. Presented May 27, 1924. Mr. Archambault.....*Not printed.*

236. Return to an Order of the House of the 9th April, 1924, for a Return showing: 1. Whether the Government has through the Department of National Defence given a contract for the supply of rifle sights or bases to McKay & Fraser Limited of New Glasgow, Nova Scotia. 2. If so, how many rifle sights or bases and at what price. 3. Whether tenders were asked before contract was awarded. 4. Whether the department contemplates further orders for rifle sights or bases or does this order cover the present requirements of the department. 5. Whether these rifle sights or bases are adapted for use in target practice or for active military service. 6. What officer of the Department of National Defence recommended the purchase of said rifle sights and bases. Presented May 27, 1924. Mr. Arthurs.....*Not printed.*

237. Return to an Order of the House of the 5th May, 1924, for a copy of all papers, reports, valuations, letters, receipts, vouchers and any other documents relating to the different transfers of the Scribe Hotel. Paris, France, and its purchase, including copies of instructions given to the Deputy Minister of Railways and his reports to the Minister; also a return of all letters, papers, reports, estimates and other documents relating to the renovation and repair of the said Hotel. Presented May 28, 1924. Sir Henry Drayton.....*Not printed.*

238. Return to an Order of the House of the 19th May, 1924, for a copy of all correspondence, telegrams, leases or other documents exchanged between the Government or any member thereof, and any other parties in any way relating to a lease which has recently been given on Peigan Indian Reserves to the Hon. Mr. McLean. Presented May 28, 1924. Mr. Coote.....*Not printed.*

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239. Return to an Order of the House of the 26th March, 1924, for a copy of all correspondence, telegrams, letters and other documents relating to, forming the basis of, or the justification for the statements of Honourable E. M. Macdonald in North Sydney on the 28th day of July, 1923, in which assurance was given of certain reductions of freight rates for the Maritime Provinces by the Canadian National Railway Board. Presented May 28, 1924. Rt. Hon. Mr. Meighen. *Not printed.*

240. Return to an Order of the House of the 7th April, 1924, for a copy of the evidence taken by Mr. Henry at the inquiry held during the year 1923, regarding the management of the workshops of St. Malo, in the city of Quebec; also for a copy of the report made and presented by the commissioner in charge of the inquiry. Presented May 30, 1924. Mr. Parent.....*Not printed.*

241. Return to an Order of the House of the 5th May, 1924, for a copy of all correspondence, letters and other documents, received by or sent from the Post Office Department or any other Department of the Government with regard to the dismissal of Abraham Noonan as Postmaster at Albany, Prince Edward Island. If an investigation was held, a copy of the evidence and the investigator's report. Presented May 30, 1924. Mr. Chaplin.....*Not printed.*

242. Return to an Order of the House of the 7th May, 1924, for a copy of all correspondence, telegrams and other documents exchanged between the Post Office Department, the Civil Service Commission and all other persons since January 1st, 1921, to date, on the dismissal of the postmaster at St. Gédéon Station, Quebec, and the nomination of a new postmaster. Also copies of the investigation that was held, and of the report of the investigators, as well as copies of applications made to the Civil Service Commission for the said postmastership, and all petitions and certificates given in favour of or against any of the applicants. Presented May 30, 1924. Mr. Doucet.....*Not printed.*

243. Return to an Order of the House of the 12th May, 1924, for a copy of all correspondence, telegrams, and other documents, exchanged between the Minister of Public Works, or any official of his department, and Stafford R. Rudd and Company, and the Chairman of the Liberal Committee of Arnprior and others. Presented June 3, 1924. Hon. Mr. Stevens.....*Not printed.*

244. Return to an Order of the House of the 2nd June, 1924, for a Return showing: 1. The number of persons other than medical men employed in and about the unit of the Department of Soldiers Civil Re-establishment located at St. John, New Brunswick. 2. Their names and rank, and the pay and allowances of each. 3. The gross cost of such salaries and allowances. 4. The total cost for all services and expenses of such unit during the last fiscal year. Presented June 4, 1924. Mr. Hanson.....*Not printed.*

245. Return to an Address to His Excellency the Governor General, of the 16th April, 1924, for a copy of all letters, telegrams, correspondence and other documents, in the possession of the Government or any Department of the Government, between the Government and the Government of Saskatchewan on the question of Licenses for Export Liquor Houses. Presented June 4, 1924. Mr. Morrison.....*Not printed.*

246. Return to an Order of the House of the 28th April, 1924, for a copy of all letters, telegrams and correspondence during 1923 and 1924 in the possession of the Government or any department thereof regarding the appointment of a Postmaster at Wainwright, Alberta. Presented June 4, 1924. Mr. Spencer.....*Not printed.*

247. Return to an Order of the House of the 12th May, 1924, for a Return showing: 1. Whether the Dominion Public Building at Arnprior was repaired during the year 1923. 2. If so, by whom work was performed: (*a*) repairs to foundations; (*b*) painting, plastering, decorating, etc. 3. If tenders were called for, whether it was by public advertisement and if so, in what papers the advertisements appeared. 4. What tenders were received and from whom, and to whom the contract was granted. 5. Whether the said building was rewired and whether the contractor gave a sub-contract for this work. 6. Whether the usual inspector was appointed by the Public Works Department in connection with this work and if so, whom. Presented June 4, 1924. Hon. Mr. Stevens .....*Not printed.*

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248. Return to an Order of the House of the 5th June, 1924, for a Return showing: 1. What contracts have been let by the Vancouver Harbour Commissioners for harbour improvements since January 1, 1922. 2. To whom such contracts have been let. 3. The nature of the work, and the amount of contract in each case. 4. Whether such contracts were let by public tender. 5. Who tendered in each case and the amount of each tender. 6. Whether call for tenders was advertised in the press, and if so, in what papers and for what periods said advertisements appeared. Presented June 5, 1924. Mr. Black (Yukon).....*Not printed.*

249. Return to an Order of the House of the 7th April, 1924, for a return showing a list of all publications, blue books, reports, etc., issued in 1923 by each department of the Government or otherwise, at the expense of the country, stating in respect of each publication, (*a*) title; (*b*) whether single issue or issued weekly, monthly or at what other periods; (*c*) approximate circulation; (*d*) the subject or subjects covered, unless same clearly indicated by title; (*e*) approximate annual cost of printing and paper. Presented June 6, 1924. Mr. Charters.....*Not printed.*

250. Return to an Order of the House of the 14th April. 1924, for a Return showing: 1. How many appointments in the Civil Service have been exempted from the power of appointment by the Civil Service Commission since January 1, 1922. 2. How many of the appointments referred to in paragraph 1 are under the jurisdiction of the Department of Soldiers' Civil Re-establishment. 3. What proportion of the appointments made by departments other than Soldiers' Civil Re-establishment have been awarded to returned soldiers. 4. What proportion of the appointments made by the Department of Soldiers' Civil Re-establishment have been awarded to returned soldiers.. Presented June 6, 1924. Mr. Clark.
Not printed.

251. Copy of Treaty for the suppression of smuggling operations along the International Boundary between the Dominion of Canada and the United States of America, and assisting in the arrest and prosecution of persons violating the narcotic laws of either government and for kindred purposes. Presented June 9, 1924.
Printed for distribution to Senators and Members and Sessional Papers.

252. Copy of Order in Council, P.C. 962, dated June 9, 1924, approving changes in compensation paid the employees of various branches of the Post Office Department. Presented June 9, 1924.....*Not printed.*

252*a*. Correspondence between the Audit Board, The Civil Service Commission and the Prime Minister respecting the revision of salaries of postal employees. Presented June 11, 1924.....*Not printed.*

252*b*. Correspondence between the Civil Service Commission, His Excellency the Governor General in Council, the Post Office Department, and the Board of Audit respecting salary revision in the Postal Service. Presented June 12, 1924.....*Not printed.*

252*c*. Further correspondence between the Civil Service Commission and the Post Office Department respecting revision of salaries of Postal Employees. Presented June 16, 1924. .....*Not printed.*

253. Return to an Order of the House of the 19th May, 1924, for a Return showing: 1. The amount that has been received by the Enemy Property Custodian from the nationals of (*a*) Germany; (*b*) Austria-Hungary; (*c*) Other enemy countries either by disposal of property and investments in Canada or in other ways. 2. The amount that has been received from Canadian citizens on account of indebtedness to enemy nationals. 3. The amount that has been paid out of the fund so established. 4. To whom payments have been made and the amount of each payment. 5. The amount now held under the control of the custodian. Presented June 10, 1924. Hon. Mr. Manion.....*Not printed.*

254. Return to an Order of the Senate dated May 8, 1924, for a return giving copy of all correspondence with the Department of Marine respecting an inquiry under the Shipping Act into an alleged casualty to the Canadian Government Merchant Marine steamer *Canadian Farmer*, together with the evidence taken at said inquiry and the findings. Presented June 10, 1924. Hon. Mr. Taylor.....*Not printed.*

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255, 255*a*. Return and supplementary Return to an Order of the Senate dated June 6, 1924, for a copy of the inquiry made by Mr. Temple, K.C., on employees of the Canadian Merchant Marine and of his report on same, now in the hands of the Honourable Minister of Railways and Canals. Presented June 10 and 12, 1924. Hon. Mr. Beique.....*Not printed.*

256. Return to an Order of the House of the 5th May, 1924, for a copy of the contracts between Vancouver Harbour Commissioners and the Pacific Construction Company, with respect to: (*a*) Reconditioning of Elevator Number 1; (*b*) Annex to Elevator Number 1; (*c*) Construction of Elevator Number 2; (*d*) Completion of Elevator Number 3, otherwise known as the Woodward Elevator. Also particulars of the contract between the Harbour Commissioners and any Company with respect to the leasing of the Number 3, or Woodward Elevator. Presented June 11, 1924. Mr. Spencer.....*Not printed.*

257. Return to an Order of the Senate dated May 20, 1924, for a Return showing: Copy of all petitions, letters, telegrams, or other papers in the possession of the Public Works Department, or Marine and Fisheries Department, having reference to the removal of a lobster factory built by Edward McPherson, a portion of which is at the present time on the Government Wharf at Cape Traverse, Prince County, P.E.I., and if the Government has ordered the removal of the aforesaid building from the Government property. Presented June 11, 1924. Hon. Mr. Murphy.....*Not printed.*

258. Return to an Order of the Senate dated May 29, 1924, for a Return showing: A list of the more important articles imported from Great Britain in Canada during the fiscal year 1923, which received the benefit of the preferential tariff. 1. What was the value thereof. 2. What was the amount of duty collected thereon. 3. What would the amount of duty have been on the same articles if there had been no preference duty allowed, or if the general duty had been applied. 4. Also a list of the articles upon which the preferential tariff has been increased or reduced, directly or indirectly, by the Budget of this year. Presented June 11, 1924. Hon. Mr. Webster (Stadacona).....*Not printed.*

259. Return to an Order of the House of the 2nd June, 1924, for a copy of all letters, telegrams, memorandum, agreement and all other documents relative to the purchase of the Daly Building in the City of Ottawa from the H. J. Daly Company in the year 1921, together with copies of the Order in Council dated the 31st of August, 1921, and the Deed dated September, 1921. Presented June 12, 1924. Mr. Parent.....*Not printed.*

260, 260*a*. Return and supplementary Return to an Order of the House of the 28th May, 1924, for a copy of all correspondence and other documents exchanged between the Postmaster General or the Government of Canada, the Civil Service Commission and all other persons since January 1st, 1922, to date on the subject of the dismissal of Willie Juneau, postmaster at La Tuque, Quebec, and the appointment of a new postmaster. Also a copy of the findings and reports of the investigation that was held on the said Willie Juneau. Presented June 16 and July 18, 1924. Mr. Doucet. *Not printed.*

261. Copy of Treaty of Commerce and Navigation between the United Kingdom of Great Britain and Ireland and Finland signed at Helsingfors the 14th day of December, 1923. Presented June 17, 1924.....*Presented in printed form.*

262. Return to an Order of the House of the 4th June, 1924, for a copy of all letters, telegrams and other documents passing between J. A. Schryburt, or Schreibert, and the Prime Minister or other members of the Government, relative to the Hoppe Coal leases. Presented June 17, 1924. Mr. Kennedy (Edmonton)....*Not printed.*

262*a*. Return to an Order of the House of the 23rd June, 1924, for a copy of all letters, telegrams and other documents passing between J. A. Schryburt and the Prime Minister or other members of the Government relative to the Isenberg Leases. Presented July 4, 1924. Mr. Kennedy (Edmonton).....*Not printed.*

263. Return to an Order of the Senate dated June 5, 1924, for a Return showing in each of the Provinces of the Dominion, what is: 1. The municipal land evaluation. 2. Farm land evaluation. 3. Evaluation of industries. 4. Municipal land evaluation of towns. 5. (*a*) Factories separate, (*b*) Factories included. 6. The number of

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farmers in each province. 7. The number of manufacturers in each province. 8. The evaluation of villages not included in farms or industries. Presented June 17, 1924. Hon. Mr. Boyer.....*Not printed.*

264. Return to an Order of the Senate dated May 29, 1924, for a Return showing: 1. A list of articles exported from Canada to Great Britain coming under the preference of the McKenna duties. 2. The value of such articles so exported. 3. What was the rate of preference duties thereon. Presented June 17, 1924. Hon. Mr. Webster (Stadacona).....*Not printed.*

265. Return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, letters, telegrams and other documents exchanged between any Member of the Government or any Member of Parliament and any district superintendent or higher official of the Canadian National Railways with regard to employment, seniority, retirement or dismissal of any employee of the Canadian National Railway System. Presented June 19, 1924. Rt. Hon. Mr. Meighen.....*Not printed.*

266, 266*a*. Return and Supplementary Return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, letters, telegrams and other documents exchanged between the Department of Marine and Fisheries and any person, persons or corporations, relative to the enforcement of the Lobster Fisheries Regulations in New Brunswick, during the years 1920, 1921, 1922, 1923 and up to February 29th, 1924. Presented June 19, 1924. Mr. Doucet.....*Not printed.*

267. Return to an Order of the House of the 28th May, 1924, for a Return showing: 1. Amount spent by the Government of Canada in relieving unemployment in Canada, in Winnipeg, Hamilton, Toronto, Vancouver and Montreal during the past six years. 2. What sum respectively was spent by the (*a*) Dominion Government, (*b*) the Provincial Government, (*c*) the Municipalities aforesaid, relieving unemployment in these five cities the past six years. 3. Whether the Government during these years had any agreement with the Provinces and Municipalities as to any form of relief. If so, what the arrangement was. 4. Whether any steps are being taken for next winter by the Government alone or with the Provinces or Municipalities as to taking care of unemployment and the dumping of those out of work in the larger centres of population. Presented June 20, 1924. Mr. Church. *Not printed.*

268. Return to an Order of the House of the 9th June, 1924, for a copy of all reports, correspondence, telegrams and other documents, passing between any officer or officers of the Indian Department, from September, 1922, to date, with respect to the suspension, and subsequent resignation of Major J. B. Hardinge, Indian Agent of the Touchwood Agency at Punnichy, Saskatchewan. Presented June 23, 1924. Mr. Johnston.....*Not printed.*

269. Return to an Order of the House of the 16th June, 1924, for a copy of all correspondence in the possession of any Department of the Government concerning the removal or proposed removal from office of J. L. Bell, police magistrate at Whitehorse, Yukon Territory. Presented June 23, 1924. Mr. McQuarrie. *Not printed.*

270. Return to an Order of the Senate, dated June 18, 1924, for a Return showing: 1. The total receipts and expenditures of the Canadian National Railways on Vancouver Island for each year of its operation including 1923-24, under the two heads of passengers and freights. 2. The mileage now under operation and the points between which the roads are operated and the frequency of the service. The total capital expenditure to date upon the system now being operated, and the total expended on the portion wholly or partly graded but not tracked and operated. Presented June 23, 1924. Rt. Hon. Sir George E. Foster...*Not printed.*

271. Return to an Order of the House of the 24th March, 1924, for a copy of all correspondence, letters, telegrams, reports and other documents in possession of the Government relative to the seizure and release of the vessel Jeanne d'Arc for infringement of Customs Laws. Presented June 24, 1924. Mr. Doucet.....*Not printed.*

272. Return to an Order of the House of the 14th April, 1924, for a copy of all correspondence exchanged between the Postmaster General or the Government of Canada, the Civil Service Commission and all persons since the 1st January, 1922, to

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date, on the subject of the dismissal of Thomas Lavoie, postmaster at St. Gedeon, Chicoutimi County, and the nomination of a new postmaster at Gedeon. Also copies of the investigation that was held on the said Thomas Lavoie, and of the report of the investigators, as well as copies of applications made to the Civil Service Commission for the position of postmaster at St. Gedeon, and all petitions and certificates given in favour of or against, any of the applicants. Presented June 24, 1924. Mr. Doucet.....*Not printed.*

273. Return to an Order of the Senate, dated April 3, 1924, for a Return giving a copy of the agreements between The Canadian National Railway and the Brotherhoods or organizations of Railway Employees together with a copy of one pay roll under each agreement for the Atlantic Division. Presented June 24, 1924. Hon. Mr. Ross (Middleton).....*Not printed.*

274. Copy of correspondence *re* recognition of Union of Soviet Socialist Republics by Canada; also copy of Order in Council, P.C. 4667, of 26th December, 1921, respecting participation by Canada in a Trade Agreement between the Government of the United Kingdom and the Russian Soviet Government. Presented June 26, 1924.....*Not printed.*

275. Return to an Order of the House of the 16th June, 1924, for a Return showing: 1. Number of officials permanently employed by the Canadian Government in Great Britain, and their duties. 2. Total amount of the salaries and other payments, if any, made to them. 3. Number of officials temporarily employed in Great Britain by the Canadian Government at the Empire Exhibition or elsewhere. 4. Duties of such temporary officials or employees and the total cost of their services. 5. In addition to those already there, how many officials the Government proposes to send to Great Britain in connection with the Empire Exhibition and the approximate cost. 6. Whether Government is bearing in part or whole the expenses of representatives of Provincial Governments. 7. Duties of these Provincial representatives, and the approximate expenses. Presented June 26, 1924. Mr. Campbell.....*Not printed.*

275*a*. Return to an Order of the House of the 23rd June, 1924, for a Return showing (1) All rules, regulations, ordinances, regarding the allotment of exhibit space by officials in charge of the Canadian section of the Wembley Exhibition, and copy of any available correspondence on space allotment between the Government of Canada and its agents in charge of this building, and a copy of the order *re* allotment of space, showing the amount assigned to each province. (2) A statement showing the estimated cost to the Government of the Canadian exhibit, (*a*) for buildings; (*b*) for Government exhibits and incidentals; (*c*) a list of the chief officials and their salaries. (3) A statement or copy of any agreements between the Provinces and Dominion as to space, or between the Government of Canada and any city in Canada or Canadian Fair as to space, showing the allotment. Presented July 14, 1924. Mr. Church.....*Not printed.*

275*a*. Return to an Address to His Excellency the Governor General, of the 18th June, 1924, for a copy of all correspondence between the Canadian High Commissioner and the Minister of External Affairs or the Department of External Affairs, and between the British Columbia representative in London, Mr. F. C. Wade, and the Minister of External Affairs, relative to the Wembley Exposition; the use of Canadian materials in the buildings thereof and the relationship of the High Commissioner of Canada thereto. Presented July 16, 1924. Mr. Sutherland.
Not printed.

276. Copy of a Bill respecting the United Church of Canada, passed by the Legislature of the Province of Prince Edward Island, which was not assented to by the Lieutenant-Governor of that Province; also copy of Order in Council P.C. 752, dated 5th May, 1924, concerning the same. Presented June 27, 1924.....*Not printed.*

277. Return to an Order of the House for a copy of all papers and documents, including appraiser's reports, relating to the importation of electric lamps from Holland since the 1st of January, 1923. Presented July 1, 1924. Mr. Coote....*Not printed.*

278. Return to an Order of the Senate, dated May 29, 1924, for a Return of copies of all communications during 1921 and since that year between the Government of Nova Scotia, or any person on their behalf, and the Department of Customs and Excise.

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or any other Department of the Government of Canada, in regard to the establishment in the City of Halifax, Nova Scotia, of bonded warehouses for intoxicating liquors. Presented July 1, 1924. Rt. Hon. Sir George E. Foster.....*Not printed.*

279. Return to an Order of the House of the 16th June, 1924, for a copy of all correspondence and other documents relating to the inquiry regarding Mr. Louis Gauthier, caretaker of the Post Office at Matane, Quebec; also a copy of evidence given at said inquiry, together with the investigator's report. Presented July 2, 1924. Mr. Doucet.....*Not printed.*

280. Return to an Order of the House of the 14th April, 1924, showing: The total travelling expenses of each Minister of the Government for the fiscal years ending March 31st, 1920, 1921, 1922 and 1923, or any portion of such fiscal years that each or any such Ministers held office. Presented July 3, 1924. Mr. McBride.
Not printed.

281. Copy of a Convention of Commerce between Canada and the Economic Union of Belgium and Luxembourg, signed at Ottawa, on the Third Day of July, 1924. Presented July 4, 1924.....*Printed for distribution to Senators and Members.*

282. Partial Return to an Order of the House of the 12th May, 1924, for a Return showing: 1. Number of Commissions of Enquiry appointed by the Laurier Government. 2. Total cost of these Commissions. 3. Names of the counsel employed by the Government. 4. Total remuneration paid to each. Presented July 4, 1924. Mr. Leader.....*Not printed.*

283. Partial Return to an Order of the House of the 12th May, 1924, for a Return showing: 1. Number of Commissions of Enquiry appointed by the Borden Government. 2. Total cost of these Commissions. 3. Names of the counsel employed by the Government. 4. Total remuneration paid to each. Presented July 4, 1924. Mr. Leader.....*Not printed.*

284. Partial Return to an Order of the House of the 12th May, 1924, for a Return showing: 1. Number of Commissions of Enquiry appointed by the Meighen Government. 2. Total cost of these Commissions. 3. Names of the counsel employed by the Government. 4. Total remuneration paid to each. Presented July 4, 1924. Mr. Leader.....*Not printed.*

285. Partial Return to an Order of the House of the 12th May, 1924, for a Return showing: 1. Number of Commissions of Enquiry appointed by the present Government. 2. Total cost of these Commissions. 3. Names of the counsel employed by the Government. 4. Total remuneration paid to each. Presented July 4, 1924. Mr. Leader.....*Not printed.*

286. Return to an Order of the House of the 5th May, 1924, for a copy of all correspondence exchanged between the Government and all persons whomsoever on the subject of the nomination of Dr. Michaud as doctor and agent for the Indians at Seven Islands, county of Saguenay, including (*a*) copy of all instructions given him on the subject of the purchase of provisions and merchandise necessary to the reserve, (*b*) copy of all instructions given him on the subject of patronage in his district, (*c*) copy of all tenders obtained from different merchants for the merchandise necessary, (*d*) list of merchandise purchased, and the names of the vendors and the prices paid up to December 1st, 1923, (*e*) copies of all instructions given the agent authorizing him to make advances to certain Indians with guaranteed privilege on their furs, without notifying the public. Presented July 4, 1924. Mr. Doucet.
Not printed.

287. Interim Report of the Royal Grain Inquiry Commission upon matters investigated at Vancouver regarding the handling, storing and shipping of grain, dated Vancouver, B.C., June 19, 1924. Presented July 7, 1924.
Printed for distribution to Senators and Members.

288. Return to an Order of the House of the 21st May, 1924, for a copy of all reports as it is proper to produce, received from the Officer commanding the Royal Canadian Mounted Police, Vancouver, regarding the violation of the Opium and Narcotic Drug Act, during the years 1920 to 1924, inclusive. Presented July 7, 1924. Hon. Mr. Stevens.....*Not printed.*

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289. Return to an Order of the House of the 12th May, 1924, for a Return showing a statement of amount of cocaine or other narcotic drugs seized in British Columbia under the authority of the Royal Canadian Mounted Police and the disposition of the same, during the years 1920 to 1924, inclusive. Presented July 7, 1924. Hon. Mr. Stevens.....*Not printed.*

290. Return to an Order of the House of the 16th June, 1924, for a copy of all correspondence, telegrams, letters and other documents in the possession of the Government relating to the capture by bandits in China of Mr. Jaffray, of Toronto, and the efforts of the Government to secure his release. Presented July 7, 1924. Hon. Mr. Manion.....*Not printed.*

291. Return to an Order of the House of the 12th May, 1924, for a Return showing the names of the members of the Royal Canadian Mounted Police, Victoria detachment, who have (*a*) left the service; (*b*) been removed; (*c*) been dismissed; showing the reasons for termination of services. Presented July 7, 1924. Hon. Mr. Stevens.....*Not printed.*

292. Return to an Order of the House of the 9th June, 1924, for a copy of all correspondence, telegrams and other documents relating to charges of political partizanship preferred against W. L. Trotter, Postmaster at Sheguinadah, Ontario, together with a copy of the evidence taken, the investigator's report, and showing what action was taken by the Government on said report. Presented July 7, 1924. Mr. Sutherland.....*Not printed.*

293. Return to an Order of the House of the 9th June, 1924 for a copy of all correspondence, telegrams and other documents relating to charges of political partizanship preferred against Wm. Boyd, Postmaster at Kagawong, Ontario, together with a copy of the evidence taken, the investigator's report, and showing what action was taken by the Government on said report. Presented July 7, 1924. Mr. Sutherland.....*Not printed.*

294. Return to an Order of the House of the 4th June, 1924, for a copy of the agreement entered into between Canadian Petroleums, Limited, and the Government regarding the production of carbon-black and the leasing of oil-lands, and a copy of all correspondence and telegrams in connection therewith. Presented July 8, 1924. Mr. Kennedy (Edmonton).....*Not printed.*

295. Return to an Order of the House of the 26th May, 1924, for a copy of all letters, telegrams, memoranda, order in council, and other documents in the possession or under the control of the Government of Canada or any department thereof, of date subsequent to April 12th, 1922, relating to the proposed reclamation of the area in the Province of British Columbia and the State of Idaho known as the Kootenay Flats. Presented July 8, 1924. Mr. Humphrey.....*Not printed.*

296. Return to an Order of the House of the 9th June, 1924, for a copy of all correspondence, telegrams and other documents relating to charges of political partizanship preferred against S. Brickman, Postmaster at Sebringville, Ontario, together with a copy of the evidence taken, the investigator's report, and showing what action was taken by the Government on said report. Presented July 10, 1924. Mr. Sutherland.....*Not printed.*

297. Return to an Order of the House of the 8th May, 1924, for a Return showing: 1. How many passenger automobiles have been purchased by the Government in each of the years—1919, 1920, 1921, 1922, 1923 and 1924. 2. What has been the cost of upkeep of such cars in each year. Presented July 10, 1924. Mr. McBride. *Not printed.*

298. Return to an Order of the House of the 2nd June, 1924, for a copy of all correspondence, telegrams or other documents passing between the London Guarantee and Accident Company, Limited, or any other parties, and the Government, in connection with the Bond for $321,000 covering the completion of two ships at Prince Rupert by the Prince Rupert Dry Dock and Engineering Company, Limited. Presented July 14, 1924. Mr. Coote.....*Not printed.*

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299. Return to an Order of the House of the 23rd June, 1924, for a return showing the names and addresses of persons residing in the provinces of Manitoba, Saskatchewan and Alberta growing Barberry bushes or hedges, who have been requested by the Federal Department of Agriculture to destroy them and have failed to comply with the request. Presented July 15, 1924. Mr. Lovie. *Not printed.*

300. Return to an Address to His Excellency the Governor General of the 7th April, 1924, for a copy of Order in Council providing for the appointment of a Canadian Customs Officer at New York for supervision of Canadian goods shipped from Canada via New York to Canadian points on the Pacific; also, copy of all correspondence, telegrams and other documents, in reference to the matter since the passing of the said Order in Council. Presented July 16, 1924. Hon. Mr. Stevens.....*Not printed.*

301. Return to an Order of the House of the 3rd April, 1924, for a Return showing: 1. The amount of liquor brought into British Columbia during the calendar years 1922 and 1923. 2. The amount of liquor remaining in bond and later released for export. 3. The amount of liquor released for local consumption. 4. The amount of revenue secured for liquor released for local consumption. 5. The amount of gross revenue or security received from liquor in bond, and the total refund or release under the regulations controlling liquors in bond during the said years. Presented July 16, 1924. Hon. Mr. Stevens.....*Not printed.*

302. Return to an Order of the House of the 28th May, 1924, for a Copy of all correspondence, petition, and other documents exchanged between the Postmaster General or the Government of Canada, and all other persons since July 1st, 1922, to date, on the subject of the dismissal of Edward Gibbs, postmaster, at Four Roads, Gloucester county, New Brunswick. Also a copy of the reports of the investigation that was held, together with a copy of the findings of the investigator. Presented July 17, 1924. Mr. Doucet.....*Not printed.*

303. Return to an Order of the House of the 9th June, 1924, for a copy of all correspondence, telegrams and other documents referring to the dismissal of Mr. D. D. Campbell as Postmaster at O'Leary, Prince Edward Island, and if charges were made and an investigation held, a copy of the evidence taken and the investigator's report. Presented July 17, 1924. Mr. Chaplin.....*Not printed.*

304. Return to an Order of the House of the 9th June, 1924, for a copy of all correspondence, telegrams, letters and other documents, passing between the Department of Trade and Commerce and the Civil Service Commission respecting the matter of the necessity of a person being a university graduate before appointment as Trade Commissioner. Presented July 17, 1924. Sir Henry Drayton. *Not printed.*

305. Return to an Order of the House of the 9th June, 1924, for a copy of all letters, telegrams and other documents passing between the Department of Trade and Commerce and the Civil Service Commission respecting the matter of an age limit for appointments as Trade Commissioners. Presented July 17, 1924. Sir Henry Drayton.....*Not printed.*

306. Return to an Order of the House of the 12th May, 1924, for a copy of all letters and other documents, in possession of the Department of Public Works, relating to the claims of the contractor for payments of the cost of work necessitated by the building of the Post Office in the city of Quebec. Presented July 18, 1924. Mr. Parent. *Not printed.*

307. Return to an Order of the House of the 16th June, 1924, for a copy of the instructions given Dr. Hume with reference to the oil industry in Ontario and all letters, statements, documents and evidence taken or collected by the said Dr. Hume with reference to the said oil industry and of the report made by Dr. Hume thereon. Presented July 18, 1924. Sir Henry Drayton.....*Not printed.*

308. Return to an Order of the House of the 31st March, 1924, for a copy of the report of Commissioner A. T. Thompson, who was appointed to investigate conditions among the Six Nations Indians. Also a copy of all evidence, letters, correspondence and other documents in the possession of the Government in this connection. Presented July 18, 1924. Mr. Senn.....*Not printed.*

CONTENTS OF VOLUME 7—*Concluded*

309. Copy of communications which have passed between the Canadian Government and His Majesty's Government regarding representation of the Dominions at the Inter-Allied Conference. Presented July 18, 1924.
Printed for distribution to Senators and Members and bound Sessional Papers.

310. Report of the Royal Commission on Pulpwood—Part One, Pulpwood Resources; Part Two, Forest Conservation; Part Three, The Question of Pulpwood Exports—July, 1924. Presented July 18, 1924.....*Printed for distribution.*

311. Partial Return to an Order of the Senate, dated April 3, 1924, for a Return showing: the clearances granted by the Customs authorities to vessels of fifteen hundred tons and under for export of intoxicating liquors from Canada during the calendar year 1923, giving according to Provinces the port from which, the Port and Country to which clearance was granted and the tonnage of each vessel cleared, the quality and kind of liquor indicated, the value of the same and the amount of duty involved, paid or remitted in each case, the amount and nature of the security taken by the Government to insure the bona-fides of the exports, the names of the vessels and the date of sailing from the Canadian Port, and the date of the next entry of those vessels into Canada, the foreign Ports from which they were cleared, and the name of the Customs official in each case who issued the clearance from Canadian Ports. Presented July 18, 1924. Rt. Hon. Sir Geo. E. Foster.....*Not printed.*

312. Return to an Order of the House of the 7th April, 1924, for a copy of all contracts made or entered into between the Government of Canada or any department thereof or any person or persons acting for or on behalf of the Government or any department thereof and the Dominion Canners, Limited, of Hamilton and Simcoe, Ontario, at any time since the 1st of August, 1914, and the 1st August, 1919, and of all reports, letters, correspondence and other documents in the possession or under the control of the Government, relating to or having any bearing upon any dealings, negotiations, contracts or business transactions of any kind whatsoever between the Government and the Dominion Canners, Limited, or any person or persons acting on behalf of said company, and especially, copies of reports made to the Government or any department thereof, by the Milton Hersey Company, Limited, Montreal, R. R. McCall, Esq., Government Inspector, Simcoe, Ontario, and H. H. Holland, Government supervising inspector, in reference to, or having any bearing upon contracts, dealings and transactions between the Government and the Dominion Canners, Limited, during the period hereinbefore mentioned, and also of all reports made to the Government as aforesaid by any commission or commissions or any person or persons whatsoever appointed or authorized by the Government to inquire into and report upon the dealings, transactions, and contracts between the Government and the Dominion Canners, Limited, or any person or persons acting on their behalf during the period from the 1st of August, 1914, and the 1st of August, 1919. Presented July 19, 1924. Mr. Wallace.....*Not printed.*

313. Return to an Order of the House of the 9th June, 1924, for a copy of all correspondence and other documents relating to the inquiry on Ludovic Germain, chief of the city distribution branch, Montreal Post Office; also a copy of evidence given at said inquiry, together with the investigator's report. Presented July 19, 1924. Mr. Doucet.....*Not printed.*

DEPARTMENT OF TRADE AND COMMERCE

OTTAWA, CANADA

MINISTER
Hon. J. A. ROBB

DEPUTY MINISTER
F. C. T. O'HARA

ANNUAL REPORT

OF THE

WEIGHTS AND MEASURES, ELECTRICITY AND GAS INSPECTION SERVICES

FOR THE

FISCAL YEAR ENDING MARCH 31

1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

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REPORT

OF THE

INSPECTION OF WEIGHTS AND MEASURES, ELECTRICITY AND GAS

To the Honourable
The Minister of Trade and Commerce.

SIR,—I have the honour to submit the annual report on the Inspection of Weights and Measures, Electricity and Gas; also statements in connection therewith for the fiscal year ended March 31, 1923.

F. C. T. O'HARA,
Deputy Minister.

WEIGHTS AND MEASURES INSPECTION SERVICE.

Mr. E. O. Way, Director of Weights and Measures, reports as follows:—

The activities of the Weights and Measures Service for the year 1922-23 again show a steady progress. Stability of effort is evidenced by holding and increasing the revenue collected in 1921-22 by the sum of $6,122.02, whilst economic efficiency is represented by a reduction in administrative expenses of $11,840.46—a result upon which the District Officers are to be congratulated.

The figures are as follows:—

	1921-22	*1922-23*	*Increase*
Revenue Collected	$272,137.02	$278,259.04	$6,122.02
			Decrease
Expenditure.....	$313,982.04	$302,141.58	$11,840.46

A gain of $17,962.48 has therefore been made against the deficit, which has been reduced from $41,845.02 for 1921-22 to $23,882.54 for 1922-23.

If the Cost of Living Bonus, which amounts to $22,286.33 for the whole service, be deducted, there is left but $1,596.21 as the actual operating deficit for the year.

The following statement constitutes an interesting record of Weights and Measures returns for the past fifteen years.

Fiscal Year	Number of Inspectors	Expenditure	Revenue	Total Deficit	Deficit less Bonus
1908–09	121	104,255 67	80,287 05	23,968 62	
1909–10	124	110,281 62	92,789 30	17,492 32	
1910–11	129	117,062 15	98,427 39	18,634 76	
1911–12	141	124,253 13	107,686 01	16,567 12	
1912–13	171	131,344 71	100,696 52	30,648 19	
1913–14	164	144,989 97	113,862 40	31,127 57	
1914–15	174	164,604 93	105,974 95	58,629 98	
1915–16	211	181,113 86	112,240 11	68,873 75	
1916–17	207	188,086 60	131,625 60	56,461 00	
1917–18	176	211,060 39	141,389 40	69,670 99	
1918–19	139	204,159 00			
		Bonus 25,726 89			
		229,885 89	136,497 80	93,388 09	67,661 20
1919–20	127	226,851 82			
		Bonus 45,663 54			
		272,515 36	149,473 43	123,041 93	77,378 39
1920–21	124	268,153 35			
		Bonus 38,932 73			
		307,076 08	267,105 62	39,970 46	1,037 73
1921–22	120	286,358 58			
		Bonus 27,623 46			
		313,982 04	272,137 02	41,845 02	14,221 56
1922–23	119	279,855 25			
		Bonus 22,286 33			
		302,141 58	278,259 04	23,882 54	1,596 21

There was no Bonus prior to 1918–19.

The two most notable features of the above statement are the large increase in revenue collected for the year 1920-21, and the large reduction in the number of employees in the past seven years.

The increase in revenue in 1920-21 was effected by an increase in inspection fees, established by Order in Council, and made effective April 1st, 1920, to meet the universal rise in charges confronting the service in the conduct of inspection work.

The second feature, reduction and limitation of staff to the requirements of the service, is the greatest single factor to efficient and economic administration The cost of living and salaries have so greatly increased in the past few years that Inspectors must be fully employed all the year round if the salary overhead is to be met The inspectable equipment in a city or district is relatively a fixed quantity, which done, the officers have only unremunerative supervisory work to do: for whilst inspections may be made at any time, inspection fees can only be charged normally once a year. The staff is now just adequate, the freedom from overmanning being largely responsible for the marked improvement above shown.

A general financial statement for the year 1922-23 by districts and provinces will be found in Appendix A.

The table following shows the number of weights, measures, weighing and measuring machines inspected during the year, detailed statements being given in appendices B and C.

SUMMARY

—	Submitted	Verified	Rejected	Percentage of Rejection
Weights (Dominion)	93,389	93,050	339	0·36
Weights (Metric)	1,076	1,069	7	0·65
Measures of capacity (Dominion)	126,558	126,502	56	0·04
Measures of capacity (Metric)	74	74	.....	.....
Measures of length (Dominion)	9,577	9,533	44	0·45
Milk cans	86,494	86,494	.....	.....
Ice cream containers	39,740	39,740	.....	.....
Babcock glassware (pipettes)	57,079	55,996	1,083	1·88
Gasolene measuring devices	20,703	19,844	859	4·14
Weighing machines	157,224	149,658	7,566	4·81
Weighing machines (Metric)	584	572	12	2·05
	592,498	582,532	9,966	

The table shows a total increase of 29,411 in the total equipment inspected over 1921-22, the most notable increase being that of 2,809 in the number of gasolene measuring devices.

MILK TEST GLASSWARE.

The quantity of cream and milk test glassware inspected under the Milk Test Act shows, as anticipated in my report last year, a very considerable increase.

Altogether, 57,079 pieces were received for inspection, as against 34,633 pieces last year, yielding an increase in revenue of $1,100.65.

The total fees collected amounted to $2,800.25, as against $1,699.60 last year.

SEIZURES AND PROSECUTIONS.

The number of seizures for the year total two hundred (200), made up as follows:—

Illegal spring scales	133
Other weighing machines	27
Incorrect and false measures	21
Miscellaneous	19

Prosecutions were only entered against five of the above, together with five under section 61a of the Weights and Measures Act, for sale by short weight. Nine convictions were obtained with penalties, amounting to $148; one case was settled out of court.

Weights and Measures prosecutions are less than they should be because many offences discovered by Weights and Measures inspectors are referred to other departments to be dealt with under specific legislation. Many cases of short weight in butter are referred to the Dairy Department under the Dairy Industry Act, short weight in sealed package goods is referred to the Department of Health under the Food and Drugs Act, and offences *re* the sale of vegetables to the Department of Agriculture under the Root Vegetables Act.

ADMINISTRATION AND STAFF.

Changes in personnel have taken place in the retirement of District Inspector Thos. Parker, of Nelson, in June last, by the resignation at the end of March of District Inspector G. D. Fyfe, of Calgary, and Inspector D. Cunningham of Saskatoon, and by the regrettable death of District Inspector James Barry, of St. John, at the close of the fiscal year. The St. John District comprises the whole of the province of New Brunswick, and throughout his twenty years' service, Mr. Barry proved himself an officer of exceptional personality and merit, unimpeachable integrity, and painstaking to a fault. His passing is a severe loss to our maritime districts.

With the retirement of District Inspector Thos. Parker, the Nelson District was abolished and the territory amalgamated with the District of Vancouver, of which it formed a part prior to July, 1905. The mountainous territory of British Columbia is naturally unproductive of revenue, outside the large city of Vancouver, and this amalgamation will lighten expenses and make for greater economy in administration.

Five vacancies have been filled and one new appointment made during the year.

All appointments are made through the Civil Service Commission, and since 1918 forty (40) vacancies have been filled. Of these, thirty-eight are returned men, and eight of these partially disabled S.C.R. vocational trainees. Weights and Measures work, however, is of such a heavy laborious nature, involving so much physical activity, that only men with slight disabilities can be safely employed.

There is throughout the service clear evidence of a marked increase in interest and efficiency as a result of classification and the examination system of appointment and promotion. Disappointment, and may be a little jealousy, will exist when one fails to secure promotion, but it is easier to give place and service to a colleague of higher rating on the promotion list than to another whose preference is not based upon competitive merit.

Whatever the cause, the efficiency and status of the Weights and Measures service has advanced in the past four or five years in a pronounced degree, and the returns herein printed bear indisputable witness thereto.

THE METRIC SYSTEM.

International trade, and particularly the trade between Canada and the United States, is not a little hampered by the difference that exists between the gallon of the United States and the Imperial or British gallon. The Imperial gallon has a cubical content of 277.274 cubic inches as against the American gallon, which is the old English Winchester or wine gallon of the time of Queen Anne, and has a cubical content of 231 cubic inches. The Imperial gallon is therefore 20 per cent larger than the American gallon Both gallons, however, are legal in their respective countries and there is no prefix or qualifying term to differentiate the one from the other as used and quoted in international trade. This lack of identity occasions much confusion. For instance, a Canadian, examining wholesale quotations on paint, will find American prices lower than Canadian or British. If he buys the American product, he finds that he has not only not got Imperial measure but has received goods that he cannot sell in the condition he received them without danger of prosecution (offering both illegal and short measure As another illustration, an English

business required a freezer. The American 150-quart freezer was cheaper than the Canadian—but when the American machine was delivered it was naturally found that it would not hold 150 Imperial quarts. Purchaser therefore got a machine that did not suit his requirements, and yet there was no misrepresentation on either side.

To meet the situation thus exemplified, the Decimal Association of England and the American Metric Association have recently recommended that the gallon should be mutually dropped and the metric " litre " used in its place.

The suggestion is well worth consideration and could well be adopted in putting up packed or canned commodities like paint, oils, varnish, foods, etc. Such packings would be legal in the home market and ready for export to all metric markets. The litre is .88 quart, or .22 of the gallon. Five litres would make 1.1 gallon. Present containers could be used without very serious loss of space until the practice became so established as to justify litre containers. Labels could be printed for the benefit of the public showing the litre contents and their equivalent in English measure.

It is not possible to substitute the litre for the standard gallon in the system of English Weights and Measures and Standards, but trade would be greatly facilitated by the judicious use of the metric system in such cases as that under review. Such a compromise is possible, where the compulsory introduction of the entire metric system is not possible.

APPENDIX A.

STATEMENT of Weights and Measures Expenditure and Revenue for the Fiscal Year ending March 31, 1923.

Districts	Inspectors	Expenditure						Revenue
		Salaries	Special Assistance	Rent	Travelling expenses	Sundries	Totals	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
ONTARIO—								
Belleville	F. D. Diamond	7,950 00	6 00	.....	2,782 98	350 01	11,088 99	9,361 30
Hamilton	J. C. Sealey	13,755 00	.....	.....	6,543 25	263 07	20,561 32	21,071 75
London	A. A. Luton	10,183 55	190 00	.....	4,769 83	223 20	15,366 58	19,333 70
Ottawa	E. H. Hinchey	18,088 87	.....	.....	7,511 40	134 87	25,735 14	16,787 15
Toronto	J. J. McConvey	12,965 00	.....	.....	3,855 88	180 24	17,001 12	26,965 05
	ONTARIO	62,942 42	196 00	.....	25,463 34	1,151 39	89,753 15	93,518 95
QUEVEC—								
Montreal	A. A. Bernard	17,865 00	262 50	.....	8,717 26	338 90	27,183 66	32,740 70
Quebec	J. A. W. LeBel	10,700 00	180 00	400 00	7,481 70	337 64	19,099 34	16,735 10
Sherbrooke	O. C. Delorme	6,345 00	.....	.....	2,593 57	159 10	9,097 67	9,473 70
Three Rivers	J. A. Desilets	3,872 42	367 50	.....	3,021 86	167 58	7,429 36	6,673 75
	QUEBEC	38,782 42	810 00	400 00	21,814 39	1,003 22	62,810 03	65,623 25
NEW BRUNSWICK—								
St. John	James Barry	5,890 00	.....	.....	1,647 55	136 11	7,673 66	6,732 60
NOVA SCOTIA—								
Halifax	W. M. Dustan	8,505 00	125 00	.....	3,038 08	820 19	12,488 27	8,057 95
PRINCE EDWARD ISLAND—								
Charlottetown	Ed. Davy	3,300 00	.....	.....	520 40	14 35	3,834 75	1,701 80
MANITOBA—								
Winnipeg	J. B. Attridge	14,250 00	.....	.....	9,569 98	270 99	24,090 97	26,706 85
ALBERTA—								
Calgary	W. P. Kyle	7,740 00	.....	.....	4,615 34	169 24	12,524 58	11,900 45
Edmonton	John McLeod	4,665 00	.....	.....	4,288 95	270 03	9,223 98	12,537 85
	ALBERTA	12,405 00	.....	.....	8,904 29	439 27	21,748 56	24,438 30
SASKATCHEWAN—								
Regina	E. B. Lorimer	10,590 00	.....	.....	8,479 51	335 01	19,404 52	19,998 60
Saskatoon	R. Wallace Actg.	5,698 87	1,320 00	.....	6,690 85	220 58	13,930 30	18,373 70
	SASKATCHEWAN	16,288 87	1,320 00	.....	15,170 36	555 59	33,334 82	38,372 30
BRITISH COLUMBIA.—								
*Nelson	Thos. Parker	1,260 00	.....	105 00	1,604 55	39 25	3,008 80	1,757 60
Vancouver	A. H. Dutton	4,020 00	845 24	75 00	1,111 20	1,050 67	7,102 11	5,984 55
	BRITISH COLUMBIA	5,280 00	845 24	180 00	2,715 75	1,089 92	10,110 91	7,742 15
YUKON TERRITORY	R. E. Telford	360 00	.....	.....	112 60	.....	472 60	52 20

*District of Nelson, B.C. merged into Vancouver Dist. from 1st Nov., 1922. P.C. 69/2000 dated 25th Sept., 1922.

APPENDIX A—Concluded.

STATEMENT of Weights and Measures Expenditure and Revenue for the Fiscal Year ending March 31, 1923.

Districts	Inspectors	Expenditure						Revenue
		Salaries	Special Assistance	Rent	Travelling Expenses	Sundries	Totals	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
DIRECTOR	E. O. Way	.....	.....	.....	.....	147 52	147 52	
DIVISIONAL SUPT. EASTERN	D. J. McLean	2,340 00	.....	.....	274 65	0 30	2,614 95	
DIVISIONAL SUPT. WESTERN	R. Wallace	2,310 00	.....	.....	252 45	.....	2,562 45	
ELEVATOR SCALE INSPECTOR	A. A. Bowen	660 00	.....	.....	219 46	0 71	880 17	
ELEVATOR SCALE INSPECTOR	J. G. White	500 00	.....	.....	130 45	.....	630 45	
		5,810 00	.....	.....	877 01	148 53	6,835 54	
	TOTAL FOR DISTRICTS	173,813 71	3,296 24	580 00	89,833 75	5,629 56	273,153 26	272,946 35
Post office scale inspection fees						.....	.....	2,500 00
Weights and Measures laboratory fees						.....	.....	2,800 25
Casual revenue						.....	.....	12 44
General contingencies						1,371 93	.....	
Printing						3,957 39	.....	
Stationery						1,159 65	.....	
International Bureau of Weights and Measures						213 02	6,701 99	
Provisional allowance bonus						.....	22,286 33	
Grand Totals						.....	302,141 58	278,259 04
Special Expenditure paid out of other than Weights and Measure Vote—								
Gratuities to relatives of deceased officers						350 00		
Retirement, superannuation No. 4, 10-11 George V, Chapter 67						580 00		
							930 00	

APPENDIX B.

RETURN showing the Number of Weights, Measures and Weighing Machines submitted in each inspection Division, during the Fiscal Year ended March 31, 1923.

Inspection Division	Weighing Machines																Weights					
			Platform Scales				Spring Scales			Computing Scales		Automatic Scales										
	Equal Arms	Steelyard	Ordinary	Pitless	Dial	Track	Trade	Ice and Dairy	Automatic Slot	Spring	All others	Grain Elevator	All others	Suspension Scales	Combined Avdp. and Metric	Metric	Avoirdupois	Troy	Metric	Tolerated	Tobacco
Belleville	630	66	2,788	9	33	15	13	20	7	278	881	4	1	2	.....	101	3,093	.....	236	.....	.....
Hamilton	1,394	5,050	8,159	1	198	23	14	19	69	.....	2,426	8	26	3	.....	.....	8,200	.....	105	.....	.....
London	690	132	3,690	103	211	40	1	61	20	641	5,576	.....	6	50	.....	204	3,762	.....	44	.....	.....
Ottawa	1,536	41	6,655	6	54	29	28	6	37	1,592	1,720	3	.....	9	.....	.....	7,984	.....	.....	.....	.....
Toronto	774	176	3,132	.....	171	21	45	6	195	2,534	2,674	1	16	2	.....	62	4,523	.....	18	.....	.....
ONTARIO	5,024	5,465	24,424	119	667	128	101	112	328	5,045	13,277	16	49	66	.....	367	27,562	.....	403	.....	.....
Montreal	3,344	614	9,957	79	240	49	291	50	277	1,069	5,012	4	67	23	6	91	16,095	58	376	12	325
Quebec	2,325	579	5,754	3	13	14	47	.....	3	4	1,653	18	88	7	.....	19	13,622	.....	225	335	327
Sherbrooke	387	330	5,342	125	14	15	5	.....	20	.....	889	1	.....	7	.....	13	3,911	.....	36	.....	2
Three Rivers	699	140	2,539	16	114	25	21	.....	4	191	436	2	.....	.....	.....	2	3,485	.....	.....	.....	.....
QUEBEC	6,755	1,663	23,592	223	381	103	364	50	304	1,264	7,990	25	155	37	6	125	37,113	58	637	347	654
St. John, N.B	623	93	2,328	1	19	19	47	1	.....	20	1,390	.....	6	3	.....	.....	3,176	.....	.....	.....	.....
Halifax, N.S	682	54	2,390	.....	41	31	89	.....	.....	845	1,423	.....	2	17	.....	.....	3,906	.....	.....	.....	.....
Charlottetown, P.E.I	130	5	780	.....	.....	.....	20	.....	.....	220	75	.....	2	6	.....	1	524	.....	.....	.....	.....
Winnipeg, Man	1,042	454	6,569	64	223	30	137	.....	74	2,126	1,874	22	.....	5	2	20	6,852	.....	.....	.....	.....
Regina	514	1,046	5,548	86	69	16	11	.....	6	428	1,127	2	.....	4	.....	.....	2,751	.....	.....	.....	.....
Saskatoon	573	1,016	4,994	49	5	9	2	.....	4	676	737	8	1	.....	.....	.....	3,000	.....	.....	.....	.....

SASKATCHEWAN	1,087	2,062	10,542	135	74	25	13	.....	10	1,104	1,864	10	1	4	.....	.....	5,751	.....	.....	.....	.....
Calgary	405	602	2,975	56	29	26	41	1	11	555	1,065	55	16	.....	.....	.....	2,728	.....	.....	.....	.....
Edmonton	336	426	3,297	125	36	15	28	8	9	455	1,159	65	2	3	.....	71	2,424	33	36	.....	.....
ALBERTA	741	1,028	6,2	72 181	65	41	69	9	20	1,101	2,224	120	18	3	.....	71	5,152	33	36	.....	.....
Nelson	249	55	831	15	.....	.....	12	.....	2	257	225	.....	.....	.....	.....	.....	1,006	.....	.....	.....	.....
Vancouver	294	174	2,153	3	49	10	268	24	.....	738	1,044	7	12	20	.....	.....	1,233	.....	.....	.....	.....
BRITISH COLUMBIA	543	229	2,984	18	49	10	280	24	2	995	1,269	7	12	20	.....	.....	2,239	.....	.....	.....	.....
Yukon	4	1	38	.....	.....	.....	.....	.....	.....	6	1	.....	.....	.....	.....	.....	22	.....	.....	.....	.....
Totals	16,631	11,054	79,919	741	1,519	387	1,120	196	738	12,635	31,387	200	245	161	8	584	92,297	91	1,076	347	654

APPENDIX B—Continued.

RETURN showing the Number of Weights, Measures and Weighing Machines verified in each Inspection Division, during the Fiscal Year ended March 31, 1923.

Inspection Division	Weighing Machines																Weights				
	Equal Arms	Steelyard	Platform Scales				Spring Scales			Computing Scales		Auotmatic Scales		Suspension Scales	Combined Avdp. and Metric	Metric	Avoirdupois	Troy	Metric	Tolerated	Tobacco
			Ordinary	Pitless	Dial	Track	Trade	Ice and Dairy	Automatic Slot	Spring	All others	Grain Elevator	All others								
Belleville	628	60	2,691	9	30	14	11	20	5	255	831	4	.....	2	....	101	3,081	.....	236	.....	.....
Hamilton	1,349	5,018	7,403	1	100	12	11	19	52	.....	2,001	.....	4	1	.....	.....	8,178	.....	105	.....	.....
London	681	115	3,431	96	183	27	.....	61	8	583	5,431	.....	6	50	.....	204	3,747	.....	44	.....	.....
Ottawa	1,523	37	6,347	6	34	20	27	6	33	1,540	1,655	3	.....	7	.....	.....	7,973	.....	.....	.....	.....
Toronto	766	170	2,752	.....	125	12	37	6	146	2,432	2,511	1	16	2	.....	59	4,523	.....	18	.....	.....
ONTARIO	4,947	5,400	22,624	112	472	85	86	112	244	4,810	12,429	8	26	62	.....	364	27,502	.....	403	.....	.....
Montreal	3,280	581	9,416	69	208	41	277	50	264	1,007	4,846	.....	66	21	6	88	15,985	58	376	12	325
Quebec	2,305	566	5,650	3	6	11	47	.....	3	3	1,608	18	85	6	.....	19	13,622	.....	225	335	297
Sherbrooke	387	317	5,289	116	12	11	4	.....	18	.....	844	1	.....	7	.....	12	3,911	.....	36	.....	2
Three Rivers	695	134	2,470	15	98	18	20	.....	2	185	426	2	.....	.....	.....	2	3,485	.....	.....	.....	.....
QUEBEC	6,667	1,598	22,825	203	324	81	348	50	287	1,195	7,724	21	151	34	6	121	37,003	58	637	347	624
St. John, N.B	621	92	2,283	1	13	19	47	1	.....	19	1,374	.....	6	3	.....	.....	3,169	.....	.....	.....	.....
Halifax, N.S	669	53	2,272	.....	25	29	86	.....	.....	809	1,400	.....	2	14	.....	.....	3,848	.....	.....	.....	.....
Charlottetown, P.E.I	130	5	752	.....	.....	.....	20	.....	.....	218	75	.....	2	6	.....	1	524	.....	.....	.....	.....
Winnipeg, Man	1,010	447	6,140	52	149	14	122	.....	58	1,991	1,799	22	.....	3	2	20	6,837	.....	.....	.....	.....
Regina	505	1,037	5,138	59	46	10	9	.....	5	402	1,065	2	.....	4	.....	.....	2,751	.....	.....	.....	.....
Saskatoon	572	1,014	4,870	46	5	8	2	.....	2	666	717	8	1	.....	.....	.....	3,000	.....	.....	.....	.....

SASKATCHEWAN	1,077	2,051	10,008	105	51	18	11	.....	7	1,068	1,782	10	1	4	.....	.....	5,751	.....	.....	.....	.....
Calgary	398	587	2,881	48	27	25	40	1	5	538	1,048	54	16	.....	.....	.....	2,688	.....	.....	.....	.....
Edmonton	319	406	2,891	89	29	10	28	8	7	418	1,074	63	2	3	.....	66	2,407	31	29	.....	.....
ALBERTA	717	993	5,772	137	56	35	68	9	12	956	2,122	117	18	3	.....	66	5,095	31	29	.....	.....
Nelson	249	55	829	15	.....	.....	12	.....	2	256	225	.....	.....	.....	.....	.....	1,006	.....	.....	.....	.....
Vancouver	289	174	2,102	3	37	10	266	24	.....	722	1,028	7	12	19	.....	.....	1,233	.....	.....	.....	.....
BRITISH COLUMBIA	538	229	2,931	18	37	10	278	24	2	978	1,253	7	12	19	.....	.....	2,239	.....	.....	.....	.....
Yukon	4	1	38	.....	.....	.....	.....	.....	.....	6	1	.....	.....	.....	.....	.....	22	.....	.....	.....	.....
Totals	16,380	10,869	75,645	628	1,127	291	1,066	196	610	12,050	29,959	185	218	148	8	572	91,900	89	1,069	347	624

APPENDIX B—Concluded.

RETURN showing the Number of Weights, Measures and Weighing Machines rejected in each Inspection Division, during the Fiscal Year ended March 31, 1923.

Inspection Division	Weighing Machines																Weights				
			Platform Scales				Spring Scales			Computing Scales		Automatic Scales									
	Equal Arms	Steelyard	Ordinary	Pitless	Dial	Track	Trade	Ice and Dairy	Automatic Slot	Spring	All others	Grain Elevator	All others	Suspension Scales	Combined Avdp. and Metric	Metric	Avoirdupois	Troy	Metric	Tolerated	Tobacco
Belleville	2	6	97	.....	3	1	2	.....	2	23	50	.....	1	.....	.....	.....	12	.....	.....	.....	.....
Hamilton	45	32	756	.....	98	11	3	.....	17	.....	425	8	22	2	.....	.....	22	.....	.....	.....	.....
London	9	17	259	7	28	13	1	.....	12	58	145	.....	.....	.....	.....	.....	15	.....	.....	.....	.....
Ottawa	13	4	308	.....	20	9	1	.....	4	52	65	.....	.....	2	.....	.....	11	.....	.....	.....	.....
Toronto	8	6	380	.....	46	9	8	.....	49	102	163	.....	.....	.....	.....	3	.....	.....	.....	.....	.....
ONTARIO	77	65	1,800	7	195	43	15	.....	84	235	848	8	23	4	.....	3	60	.....	.....	.....	.....
Montreal	64	33	541	10	32	8	14	.....	13	62	166	4	1	2	.....	3	110	.....	.....	.....	.....
Quebec	20	13	104	.....	7	3	....	.....	.....	1	45	.....	3	1	.....	.....	.....	.....	.....	.....	30
Sherbrooke	.....	13	53	9	2	4	1	..	2	.....	45	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Three Rivers	4	6	69	1	16	7	1	.....	2	6	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
QUEBEC	88	65	767	20	57	22	16	.....	17	69	266	4	4	3	.....	4	110	.....	.....	.....	30
St. John, N.B	2	1	45	.....	6	.....	.....	.....	.....	1	16	.....	.....	.....	.....	.....	7	.....	.....	.....	.....
Halifax, N.S	13	1	118	.....	16	2	3	.....	.....	36	23	.....	.....	3	.....	.....	58	.....	.....	.....	.....
Charlottetown, P.E.I	.....	.....	28	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winnipeg, Man	32	7	429	12	74	16	15	.....	16	135	75	.....	.....	2	.....	.....	15	.....	.....	.....	.....
Regina	9	9	410	27	23	6	2	.....	1	26	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saskatoon	1	2	124	3	.....	1	.....	.....	2	10	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

SASKATCHEWAN....	10	11	534	30	23	7	2	.....	3	36	82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Calgary.....	7	15	94	8	2	1	1	.....	6	17	17	1	.....	.....	.....	.....	40	.....	.....	.....	.....
Edmonton.....	17	20	406	36	7	5	.....	.....	2	37	85	2	.....	.....	.....	5	17	2	7	.....	.....
ALBERTA.....	24	35	500	44	9	6	1	.....	8	54	102	3	.....	.....	.....	5	57	2	7	.....	.....
Nelson.....	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vancouver.....	5	.....	51	.....	12	.....	2	.....	.....	16	16	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
BRITISH COLUMBIA.	5	.....	53	.....	12	.....	2	.....	.....	17	16	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Totals.....	251	185	4,274	113	392	96	54	.....	128	585	1,428	15	27	13	.....	12	307	2	7	.....	30

APPENDIX C.

RETURN showing the Number of Measures of Capacity, Lineal Measures and Miscellaneous submitted in each Inspection Division, during the Fiscal Year ended March 31, 1923.

Inspection Division	Measures of Capacity				Measuring Devices			Lineal Measures		Miscellaneous								
	Dominion	Glass	Metric	Milk Cans	Pumps	Measuring Tanks	Meters	Dominion	Metric	Measuregraphs	Personal Weighing Machines	Moisture Test Scales	Ice Cream Containers	Miner's Attachment	Salt Carts	Tipple Scales	Weight O-Meter
Belleville	2,432				689	1		104		6	1						
Hamilton	15,380			302	1,065		1	835		18		1					
London	21,591			19,919	779			1,896		13	5		6,445				
Otttawa	6,211			209	1,436		2	458		38							
Toronto	27,323			57,649	3,734			9		68	69		30,807				
ONTARIO	72,937			78,079	7,703	1	3	3,302		143	75	1	37,252				
Montreal	26,016		74	3,695	1,882	11		1,845		23	36						
Quebec	12,740				1,048	2		2,134		12	23						
Sherbrooke	1,829				530			247									
Three-Rivers	2,853				370	1	2	303					664				
QUEBEC	43,438		74	3,695	3,830	14	2	4,529		35	59		664				
St. John, N.B	3,563			2,364	862			30			1						
Halifax, N.S	2,191				1,023			86			1		1,824	19	63		
Charlottetown, P.E.I	504				246					4							
Winnipeg, Man	2,752			50	2,306	1		767		114	34						
Regina	658				1,503			328		26				1			
Saskatoon	12				1,143			108		7							
SASKATCHEWAN	670				2,646			436		33				1			

Calgary	316	.....	.....	1,387	637	1	.....	.....	.....	12	.....	.....	.....	14	.....	.....	.....
Edmonton	52	.....	.....	562	958	8	.....	.....	.....	8	1	.....	.....	.....	.....	11	.....
ALBERTA	368	.....	.....	1,949	1,595	.. 9	.....	.....	.....	20	1	.....	.....	14	.....	11	.....
Nelson	.....	.....	.....	.....	181	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....
Vancouver	103	.....	.....	357	311	.....	.....	.....	.....	75	25	.....	.....	5	.....	.....	2
BRITISH COLUMBIA	103	.....	.....	357	492	.....	.....	.....	.....	78	25	.....	.....	5	.....	.....	2
TOTALS	126,526	.....	74	86,494	20,703	25	5	9,150	.....	427	196	1	39,740	39	63	11	2

APPENDIX C—Continued.

RETURN showing the Number of Measures of Capacity, Lineal Measures and Miscellaneous Articles verified in each Inspection Division, during the Fiscal Year ended March 31, 1923.

Inspection Division	Measures of Capacity				Measuring Devices			Lineal Measures		Miscellaneous								
	Dominion	Glass	Metric	Milk Cans	Pumps	Measuring Tanks	Meters	Dominion	Metric	Measuregraphs	Personal Weighing Machines	Moisture Test Scales	Ice Cream Containers	Miner's Attachment	Salt Carts	Tipple Scales	Weight O-Meter
Belleville	2,422				644	1		104		6	1						
Hamilton	15,374			302	962		1	813		16		1					
London	21,590			19,919	720			1,896		13	5		6,445				
Ottawa	6,200			209	1,378		2	458		38							
Toronto	27,323			57,649	3,680			9		68	69		30,807				
ONTARIO	72,909			78,079	7,384	1	3	3,280		141	75	1	37,252				
Montreal	26,016		74	3,695	1,732	9		1,845		23	36						
Quebec	12,739				1,021	2		2,134		12	23						
Sherbrooke	1,829					514	247										
Three Rivers	2,857				363	1	2	303					664				
QUEBEC	43,435		74	3,695	3,630	12	2	4,529		35	59		664				
St. John, N.B	3,563			2,364	849			30			1						
Halifax, N.S	2,186				1,006			86			1		1,824	19	63		
Charlottetown, P.E.I	501				233					4							
Winnipeg, Man	2,751			50	2,248	1		767		100	34						
Regina	658				1,393			328		22							
Saskatoon	12				1,100			108		6							
SASKATCHEWAN	670				2,493			436		28							

Calgary	316	.....	.....	1,387	617	1	.....	.....	.....	12	.....	.....	.....	13	.....	.....	.....
Edmonton	40	.....	.....	562	903	6	.....	.....	.....	8	1	.....	.....	.....	.....	10	.....
ALBERTA	356	.....	.....	1,949	1,520	7	.....	.....	.....	20	1	.....	.....	13	.....	10	.....
Nelson	.....	.....	.....	.....	181	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....
Vancouver	103	.....	.....	357	300	.....	.....	.....	.....	74	25	.....	.....	5	.....	.....	2
BRITISH COLUMBIA	103	.....	.....	357	481	.....	.....	.....	.....	77	25	.....	.....	5	.....	.....	2
TOTALS	126,474	.....	74	86,494	19,844	21	5	9,128	.....	405	196	1	39,740	37	63	10	2

APPENDIX C—Concluded.

RETURN showing the Number of Measures of Capacity, Lineal Measures and Miscellaneous rejected in each Inspection Division, during the Fiscal Year ended March 31, 1923.

Inspection Division	Measures of Capacity				Measuring Devices			Lineal Measures		Miscellaneous		
	Dominion	Glass	Metric	Milk Cans	Pumps	Measuring Tanks	Meters	Dominion	Metric	Measure-graphs	Miner's Attach-ment	Tipple Scales
Belleville	10				45							
Hamilton	6				103			22		2		
London	1				59							
Ottawa	11				58							
Toronto					54							
ONTARIO	28				319			22		2		
Montreal					150	2						
Quebec	1				27							
Sherbrooke					16							
Three Rivers	2				7							
QUEBEC	3				200	2						
St. John, N.B					13							
Halifax, N.S	5				17							
Charlottetown, P.E.I	3				13							
Winnipeg, Man	1				58					14		
Regina					110					4	1	
Saskatoon					43					1		
SASKATCHEWAN					153					5	1	

Calgary					20						1		
Edmonton	12				55	2						1	
Alberta	12				75	2					1	1	
Vancouver					11					1			
Totals	52				859	4		22		22	2	1	

ELECTRICITY AND GAS INSPECTION SERVICES.

Mr. O. Higman, Director of the Electricity and Gas Inspection Services, reports as follows:—

The returns for the fiscal year which ended on the 31st of March last show a decrease in the number of meters tested as compared with the fiscal year 1921-22. This was due mainly to the general depression experienced in all industries, there being fewer new meters offered for verification than in the year previous.

The total number of electricity meters tested during the fiscal year 1922-23 amounted to 209,842, gas meters during the same period 100,180, making a combined total of 310,022. The total number of both classes of meters tested during the previous year amounted to 337,009.

The amount of revenue accrued from the inspection fees was:—

Electricity inspection	$134,842 81
Gas inspection	69,577 50
Total	$204,420 31

The expenditure for the fiscal year 1922-23 was as follows:—

Electricity and gas, salaries	$116,915 64
Contingencies	39,551 12
Salary bonuses	11,402 40
Total	$167,869 16

This would indicate a surplus of $36,551.15 on the year's operations without making deductions for the Ottawa Laboratory staff and office accommodation throughout the Dominion.

In the course of the year a device has been satisfactorily developed in the laboratory by which the master clock controls the starting and stopping of rotating standards which are being calibrated for the use of inspectors in the testing of meters. This master clock, which is used for checking and calibrating stop-watches, has a seconds pendulum which makes a momentary electrical contact every swing. This clock is considered to be running poorly if it varies more than one second per week. Use has been made of this electrical impulse, given accurately at second intervals, to alternately open and close the potential circuit of the meter under test every 60 seconds. The meter thus runs for a minute and stops for a minute; the stop between runs giving sufficient time to read the meter and calculate its speed. The use of a stop watch with its attendant difficulties is thus entirely eliminated, and any one run can be relied upon for an accuracy better than one-tenth of one per cent.

A considerable amount of investigation has been carried out during the year in connection with the matter of the standardizing of the capacity ratings of gas meters, these being now uniformly based on the number of cubic feet of gas that a meter will pass when a pressure equal to two inches of water is applied at the inlet of the meter and the gas passes the out-let at a pressure equal to one and one-half inches of water. The rated capacities of meters thus have now an absolutely definite meaning, in contra-distinction to the old method

of rating by lights. Under the old method, which was entirely arbitrary, the number of cubit feet of gas per light was an irregularly decreasing number as the size of the meter increased, and the five-light meters of different makes varied largely in the amount of gas they would pass under similar conditions. In other words, the new rating gives absolute information as to the performance of a meter, the old one did not.

During the year a large number of tests of the efficiencies of incandescent electric lamps, and the relative lengths of life of different makes were carried out.

THE EXPORTATION OF ELECTRICAL ENERGY.

The total amount of electric power exported to the United States during the fiscal year was 1,054,872,585 kilowatt-hours, as against 861,567,183 kilowatt-hours for the previous year, showing an increase of 193,305,402 kilowatt-hours. This does not imply that the licensed quantities were exceeded during the fiscal year 1922-23, for in no instance did any exporting company exceed the authorized amount, but that the demand for power in the United States fell off considerably during the year 1921 and came back to more normal conditions during 1922.

With regard to the general policy of the export of electrical energy from Canada, and more particularly in respect of recent discussions that have taken place as to the desirability of cutting off the export altogether, the paragraph on the subject contained in our 1920 report might with advantage be repeated. It is as follows:—

> "There are eleven hydro-electric companies at present engaged in the export of electrical energy to the United States under conditions as to quantities and terms similar to those that obtained prior to the war. With regard to the demand made by certain of the municipalities that the export of power be reduced in order than an increased supply be made available for Canadian users, it may be stated that on former occasions when the question of cutting-off the export of electric power has been raised interested parties in the United States have pointed out that should the export be discontinued by Canada the question of the export of coal from the United States to Canada would also have to be considered, and discontinuance in the one case would no doubt be followed by similar action in the other."

It may be stated that the policy in the past has been not to permit hydro-electric companies to export more than 50 per cent of the generating capacity of the plant, the other 50 per cent being retained for Canadian users.

APPENDIX D

STATEMENT of Electricity Inspection, Expenditure and Revenue for the Fiscal Year ending March 31, 1923.

Districts	District Inspectors	Expenditures						Revenue
		Salaries	Special Assistance	Rent	Travelling expenses	Sundries	Totals	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
ONTARIO—								
Belleville	W. H. Middleton	4,915 00			2,023 57	180 94	7,119 51	4,986 45
Fort William	E. Little	1,905 00			264 75	102 42	2,272 17	1,034 30
Hamilton	H. Lutz		24 00	30 00	1,134 26	155 61	1,343 87	10,066 45
London	A. F. Nash	6,420 00	600 00		1,093 64	155 61	8,269 25	9,079 70
Ottawa	J. A. Ham	7,455 00	60 00		977 02	150 68	8,642 70	6,748 25
Sudbury	L. H. Bouskill	1,905 00			258 89	67 01	2,230 90	1,891 35
Toronto	H. M. Clark	16,965 00			2,022 70	303 49	19,291 19	21,815 55
	ONTARIO	39,565 00	684 00	30 00	7,774 83	1,115 76	49,169 59	55,622 05
QUEBEC—								
Montreal	R. J. Chevrier		315 00		670 64	300 10	1,285 74	30,954 50
Quebec	J. A. Cantin	2,805 00			526 00	108 57	3,439 57	3,067 95
Sherbrooke	F. C. Bowen, Actg.				118 73	27 16	145 89	946 30
Three Rivers	A. Olivier	3,225 00			559 25	68 11	3,852 36	2,341 35
	QUEBEC	6,030 00	315 00		1,874 62	503 94	8,723 56	37,310 10
NEW BRUNSWICK—								
St. John	R. P. Fortin				536 13	77 82	613 95	3,357 30
NOVA SCOTIA—								
Halifax	John Toale	3,405 00	1,260 00		935 46	93 95	5,694 41	3,300 25
PRINCE EDWARD ISLAND—								
Charlottetown	J. H. Bell	500 00			69 15	17 72	586 87	433 35
MANITOBA—								
Winnipeg	R. Hamilton		105 00		766 80	307 19	1,178 99	10,222 95
ALBERTA—								
Calgary	W. P. Kyle	3,799 35			714 11	273 90	4,787 36	2,603 85
Edmonton	A. J. Cantin	2,905 00			274 10	109 23	3,288 33	2,258 85
	ALBERTA	6,704 35			988 21	383 13	8,075 69	4,862 70
SASKATCHEWAN—								
Regina	S. N. Hart	3,360 00			1,668 75	214 96	5,243 71	5,579 20
BRITISH COLUMBIA—								
Nelson	H. B. Penny	1,710 00			505 36	131 65	2,347 01	1,082 35
Vancouver	G. T. Scouler	7,905 00			195 40	254 10	8,354 50	9,788 70
Victoria	E. H. Ruttan		48 00		235 45	115 93	399 38	2,375 80
	BRITISH COLUMBIA	9,615 00	48 00		936 21	501 68	11,100 89	13,246 85

APPENDIX D—Concluded.

STATEMENT of Electricity Inspection, Expenditure and Revenue for the Fiscal Year ending March 31, 1923.

Districts	District Inspectors	Expenditures						Revenue
		Salaries	Special Assistance	Rent	Travelling expenses	Sundries	Totals	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
DIRECTOR	O. Higman	.....	.....	.....	.....	392 41	392 41	.....
SUPT. OF EASTERN DIV.	J. L. Stiver	2,625 00	.....	.....	637 17	2 25	3,264 42	
SUPT. OF CENTRAL DIV.	P. R. Rutledge	4,350 00	.....	.....	533 10	2,299 06	7,182 16	.....
SUPT. OF WESTERN DIV.	Jas. Stott	2,625 00	.....	.....	439 03	609 72	3,673 75	.....
		9,600 00	.....	.....	1,609 30	3,303 44	14,512 74	
	TOTAL FOR DISTRICTS	78,779 35	2,412 00	30 00	17,159 46	6,519 59	104,900 40	133,934 75
Export electric power						.....	.....	525 00
Electrical Standard Laboratory fees						.....	.....	360 39
Electrical casual revenue						.....	.....	22 67
General contingencies						7,116 61	.....	.....
Printing						759 54	.....	
Stationery						2,267 45		
International Electro-technical Commission						235 50		
Provisional allowance bonus						7,601 60		
							17,980 70	
GRAND TOTALS							122,881 10	134,842 81
Gratuities to relatives of deceased Officers							50 00	

APPENDIX E.

STATEMENT of Gas Inspection, Expenditure and Revenue for the Fiscal Year ending March 31, 1923.

Districts	District Inspectors	Expenditures						Revenue
		Salaries	Special Assistance	Rent	Travelling expenses	Sundries	Totals	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
ONTARIO—								
Belleville	W. H. Middleton							2,599 60
Hamilton	H. Lutz	8,145 00		30 00	563 28	26 63	8,764 91	7,711 40
London	A. F. Nash		12 00		722 94	98 60	833 54	7,527 00
Ottawa	J. A. Ham							1,967 40
Toronto	H. M. Clark							19,199 90
	ONTARIO	8,145 00	12 00	30 00	1,286 22	125 23	9,598 45	39,005 30
QUEBEC—								
Montreal	R. J. Chevrier	16,236 29					16,236 29	17,999 60
Quebec	J. A. Cantin							1,017 40
Sherbrooke	F. C. Bowen, Actg.	300 00					300 00	319 40
	QUEBEC	16,536 29					16,536 29	19,336 40
NEW BRUNSWICK—								
St. John	R. P. Fortin	2,865 00			123 65	8 93	2,997 58	938 70
NOVA SCOTIA—								
Halifax	John Toale							474 40
MANITOBA								
Winnipeg	R. Hamilton	,320 00					7,320 00	2,725 40
ALBERTA—								
Calgary	W. P. Kyle							2,629 50
BRITISH COLUMBIA—								
Nelson	H. B. Penny							130 20
Victoria	E. H. Ruttan	3,270 00					3,270 00	692 40
Vancouver	G. T. Scouler							3,645 20
	BRITISH COLUMBIA	3,270 00					3,270 00	4,467 80
	TOTALS FOR DISTRICTS	38,136 29	12 00	30 00	1,409 87	134 16	39,722 32	69,577 50
General contingencies						186 95		
Printing						379 77		
Stationery						1,133 72		
Provisional allowance bonus						3,800 80		
							5,501 24	
GRAND TOTALS							45,223 56	69,577 50
Gratuities to relatives of deceased Officers							310 00	

APPENDIX F.

Coal and Water Gas Companies registered and Gas Tests made.

Place	Company	Kind of gas	Number of meters	Calorimetric Tests (Standard: 450 British Thermal Units per cubic foot)					Number of times below standard value
				Number of Tests		B.T.U. Value Found			
				Pre-scribed	Made	Highest	Lowest	Aver-age	
Barrie, Ont.	Barrie Gas Co.	C.W.	680	24	24	561	453	501	0
Belleville, Ont.	Belleville Gas Co Dept.	C. and C.W.	1,350	48	48	528	430	477	5
Brandon, Man.	Brandon Gas & Power Co.	C.	1,030	46	45	549	428	480	5
Brockville, Ont.	Corp. of Brockville	C.W.	1,926	96	96	627	524	581	0
Cobourg, Ont.	H.E.P. Comm.	C.	399	24	24	593	476	526	0
Cornwall, Ont.	Stormont Gas Co.	C.W.	475	24	24	510	450	465	0
Guelph, Ont.	Corp. of Guelph	C. and C.W.	3,769	90	90	551	450	509	0
Halifax, N.S.	N.S. Tramways & Power Co., Ltd.	C.	1,941	48	48	546	458	491	0
Hamilton, Ont.	United Gas & Fuel Co.	C.W.	795	24	24	532	459	540	0
Kingston, Ont.	Corp. of Kingston	C.W.	3,700	96	96	605	462	532	0
Kitchener, Ont.	Kitchener Light Comm.	C.W.	4,175	92	92	566	451	497	0
London, Ont.	City Gas Co.	C. and C.W.	11,789	297	297	554	463	510	0
Montreal, P.Q.	Montreal L. H. & P. Co.	C. and C.W.	125,986	302	303	517	451	478	0
Nelson, B.C.	Corp. of Nelson	C.	500	24	24	473	450	460	0
New Westminster, B.C.	Cunningham Hardware Co. Gas Dept.	C.	570	21	21	596	468	543	0
Oshawa, Ont.	H.E.P. Comm.	C.W.	1,323	48	48	523	450	471	0
Ottawa, Ont.	Ottawa Gas Co.	C.	17,841	298	298	500	447	468	1
Owen Sound, Ont.	Corp. of Owen Sound	C. and C.W.	1,440	48	48	570	474	520	0
Peterboro, Ont.	H.E.P. Comm.	C.W.	3,000	96	96	523	452	495	0
Port Hope, Ont.	Port Hope Gas Dept.	C.	435	24	24	654	557	631	0
Quebec, Que.	Quebec Gas Co.	C.W.	8,146	144	144	531	450	487	0
St. John, N.B.	St. John Railway Co.	C.	1,586	48	48	597	535	571	0
St. Stephens, N.B.	Citizens Gas Co.	C.	140	Apparatus not installed.					
St. Thomas, Ont.	City of St. Thomas	C. and C.W.	3,700	94	94	663	429	502	4
Sherbrooke, Que.	Corp. of Sherbrooke	C.W.	1,800	48	48	511	464	484	0
Sorel, Que.	Corp. of Sorel	C.	250	Apparatus not installed.					
Stratford, Ont.	Stratford Gas Co.	C. and C.W.	974	46	46	672	455	560	0
Toronto, Ont.	Consumers Gas Co.	C. and C.W.	132,815	288	288	534	468	503	0
Vancouver, B.C.	Vancouver Gas Co., Ltd.	C. and C.W.	19,957	296	296	503	434	462	21
Victoria, B.C.	Victoria Gas Co.	C.	4,052	92	92	529	454	491	0
Waterloo, Ont.	Water & Light Comm.	C.W.	945	24	24	623	459	544	0
Winnipeg, Man.	Winnipeg El. Ry. Co.	C.	21,970	295	295	519	450	481	0

The Corporation of the City of Sorel discontinued making gas from March 1, 1923.

APPENDIX G.

STATEMENT of Electric Meters tested during the Fiscal Year 1922-23.

District	Correct	Accepted		Rejected		New	Retests	Dis-putes	Totals	Class 1 60c.	Class 2 75c.	Class 3 $1.50	Class 4 $5.00
		Not over 3% fast	Not over 3% slow	Over 3% fast	Over 3% slow								
Belleville	2,143	3,206	2,174	6	11	3,219	4,310	11	7,540	6,396	1,096	47	1
Calgary	1,339	2,625	36	7	2	1,073	2,825	111	4,009	3,486	499	2	22
Charlottetown	194	367	155	.....	1	193	519	5	717	696	21	.....	.....
Edmonton	945	2,600	140	1	2	1,713	1,974	1	3,688	3,381	307	.....	.....
Fort William	81	1,266	234	1	1	649	929	5	1,583	1,103	470	10	.....
Halifax	3,625	1,244	529	.....	10	2,711	2,654	43	5,408	5,175	219	14	.....
Hamilton	8,783	3,625	2,809	.....	.....	7,690	7,500	27	15,217	9,792	5,263	162	.. ....
London	3,268	4,758	5,088	1	1	7,567	5,537	12	13,116	7,152	5,614	350	.....
Montreal	11,762	24,442	14,398	47	54	17,284	33,301	118	50,703	50,050	92	561	.....
Nelson	935	650	174	2	2	1,121	622	20	1,763	1,636	125	2	.....
Ottawa	1,436	6,499	2,539	9	22	3,953	6,491	61	10,505	8,530	1,859	104	12
Quebec	2,677	1,639	645	.....	.....	2,335	2,624	2	4,961	4,772	105	84	.....
Regina	3,504	4,662	949	9	2	2,485	6,621	20	9,126	8,512	608	4	2
Sherbrooke	313	990	267	.....	.....	881	689	.....	1,570	1,558	10	2	.....
St. John	1,731	2,380	1,297	105	44	2,660	2,769	128	5,557	5,428	128	1	.....
Sudbury	1,434	1,223	410	.....	.....	1,590	1,477	.....	3,067	2,741	323	3	.....
Three Rivers	493	2,755	496	3	5	2,509	1,233	10	3,752	3,431	273	48	.....
Toronto	11,562	15,925	4,729	37	103	17,244	15,071	41	32,356	22,153	9,041	1,162	.....
Vancouver	4,683	9,519	1,071	144	123	4,266	11,244	30	15,540	13,837	1,604	99	.....
Victoria	1,148	2,381	332	1	1	820	3,020	23	3,863	3,648	194	19	2
Winnipeg	5,812	9,171	816	1	1	6,286	9,498	17	15,801	12,082	3,481	238	.....
Totals	67,868	101,927	39,288	374	385	88,249	120,908	685	209,842	175,559	31,332	2,912	39

APPENDIX H.

STATEMENT of Gas Meters tested during the Fiscal Year 1922-23.

District	Accepted			Rejected		New	Retests	Disputes	Totals	Class 1 60c.	Class 2 $1.00	Class 3 $1.50	Class 4 $2.00	Class 5 $2.50 up
	Correct	Not over 2% fast	Not over 3% slow	Over 2% fast	Over 3% slow									
Belleville	430	494	1,430	98	52	50	2,428	26	2,504	2,476	22	.....	6	.....
Calgary	110	47	3,849	6	.....	106	3,868	38	4,012	3,695	165	116	33	3
Halifax	402	2	174	.....	.....	100	475	3	578	559	19	.....	.....	.....
Hamilton	3,726	1,036	7,468	.....	.....	1,042	11,159	29	12,230	12,109	106	10	5	.....
London	2,557	1,992	5,919	15	7	497	9,943	50	10,490	10,310	109	16	47	8
Montreal	9,062	3,983	14,995	98	67	3,938	24,139	128	28,205	27,725	362	.....	116	2
Nelson	46	33	38	.....	.....	117	.....	.....	117	117	.....	.....	.....	.....
Ottawa	404	735	679	24	2	5	1,796	43	1,844	1,789	41	.....	12	2
Quebec	765	72	238	.....	.....	284	791	.....	1,075	1,049	24	.....	2	.....
Sherbrooke	110	154	65	.....	.....	76	253	.....	329	324	5	.....	.....	.....
St. John	675	221	389	7	2	169	1,102	23	1,294	1,197	92	3	2	.....
Toronto	11,628	2,542	14,776	69	56	3,028	25,879	164	29,071	28,014	949	.....	69	39
Vancouver	1,175	1,488	1,874	31	16	1,199	3,361	24	4,584	4,432	122	1	24	5
Victoria	230	196	302	8	4	146	585	9	740	694	46	.....	.....	.....
Winnipeg	1,486	561	1,058	1	1	406	2,696	5	3,107	3,089	14	.....	4	.....
Totals	32,806	13,556	53,254	357	207	11,163	88,475	542	100,180	97,579	2,076	146	320	59

APPENDIX I.

STATEMENT of Natural Gas Companies Registered.

District and Name	Location	Number of Meters
Calgary District—		
Bow Island, Town of	Bow Island, Alta	126
Canadian Western Natural Gas L.H. & P. Co., Ltd	Bowness, Alta	8
" " " "	Brooke, Alta	119
" " " "	Calgary, Alta	9,494
" " " "	Claresholm, Alta	215
" " " "	Field, Alta	1
" " " "	Granum, Alta	111
" " " "	Lethbridge, Alta	1,055
" " " "	Macleod, Alta	260
" " " "	Main Line, Alta	26
" " " "	Nanton, Alta	155
" " " "	Okotoks, Alta	115
" " " "	Turner Valley, Alta	9
Canadian Western Power & Fuel Co	Red Cliff, Alta	285
Medicine Hat, City of	Medicine Hat, Alta	2,970
Suffield, Village of	Suffield, Alta	21
Hamilton District—		
Bertie Natural Gas Company	Ridgeway, Ont	140
Brantford Gas Company	Brantford	4,074
Dominion Natural Gas Company	Echo Place, Ont	191
Chippewa Development Company	Chippewa, Ont	62
Chippewa Oil and Gas Company	Caister & Gainsboro Twps., Ont	230
Coleman, J. A	Welland and Lincoln Counties, Ont	84
Dominion Natural Gas Company	Cayuga, Ont	216
" "	Delhi, Ont	254
" "	Dundas, Ont	1,253
" "	Dunnville, Ont	1,284
" "	Galt, Ont	1,338
" "	Hamilton, Ont	1,572
" "	Jarvis, Ont	222
" "	Lyndoch, Ont	43
" "	Paris, Ont	560
" "	Port Dover, Ont	499
" "	Port Rowen, Ont	247
" "	Selkirk & Country	552
" "	Simcoe, Ont	1,615
" "	St. George, Ont	137
" "	St. Williams, Ont	97
" "	Vittoria, Ont	73
Industrial Natural Gas Company	Welland County, Ont	83
Lake Shore Natural Gas & Fuel Co	Fort Erie, Ont	320
Manufacturers Natural Gas Co., Ltd	Hagersville, Ont	379
" "	Hamilton, Ont	27
Midfield Natural Gas Company	Haldimand County Twps. of Oneida and North Cayuga, Ont	34
National Gas Company	Haldimand County	31
Port Colborne Welland Natural Gas Co	Caledonia and vicinity	526
Progressive Gas & Oil Company, Ltd	Belmont, Ont	92
Provincial Natural Gas & Fuel Co., Ltd	Bridgeburg and Sherkstone, Ont.	1,593
" "	Niagara Falls, Ont	3,200
" "	Welland, Ont	2,503
Rose Hill Natural Gas Company	Bertie Twp. Rosehill and Welland County, Ont	40
Sterling Gas Co	Port Colborne, Ont	1,325
United Gas Companies, Ltd	Fenwick, Ont	2
" "	St. Catharines, Ont	3,516
" "	Thorold, Ont	499
" "	Country	242
United Gas & Fuel Co. of Hamilton, Ltd	Hamilton, Ont	22,130
London District—		
Chatham Gas Company, The	Chatham, Ont	3,632
Central Pipe Line Company, The	Aylmer, Ont	706
" "	Malahide and Bayham, Ont	70

APPENDIX I—Concluded.

STATEMENT of Natural Gas Companies Registered.

District and Name	Location	Number of Meters
London District—Concluded		
Central Pipe Line Company, The	Port Burwell, Ont	98
" "	Vienna, Ont	86
Dominion Natural Gas Co., The	Tillsonburg, Ont	1,274
Ingersoll Gas Light Company, The	Ingersoll, Ont	1,158
Leamington, Town of	Leamington, Ont	1,195
Petrolia Utilities Company, The	Petrolia, Ont	781
Sarnia Gas Company, The	Sarnia, Ont	4,000
Southern Ontario Gas Company, The	Dorchester and Putnam	119
" "	Dutton, Ont	267
" "	Highgate and Wallacetown, Ont.	123
" "	Kingsville and County	607
" "	Lambeth, Ont	91
" "	Leamington, Wheatley and County, Ont	999
" "	Rodney and The Main Line	836
" "	Shedden, Ont	142
" "	West Lorne, Ont	221
Union Natural Gas Company, The	Blenheim, Ont	422
" "	Dresden, Ont	498
" "	Essex, Ont	443
" "	Ridgetown, Ont	610
" "	Tillbury, Ont	410
Wallaceburg Gas Company, The	Wallaceburg, Ont	998
Windsor Gas Company, The	Ford, Ont	438
" "	Riverside	25
" "	Sandwich, Ont	443
" "	Walkerville, Ont	1,395
" "	Windsor, Ont	7,189
Woodstock Gas Light Company, The	Woodstock, Ont	1,985
St. John District—		
Moncton Tramways Electricity & Gas Company, Ltd	Moncton and Suburbs and Hillsboro, N.B	4,489

APPENDIX J.

STATEMENT of Acetylene Gas Companies Registered.

District and Name	Location	Number of Meters
Winnipeg District—		
Acetylene Construction Company, The	Hamiota, Man	56
" "	Morris, Man	70
Birtle, Town of	Birtle, Man	37
Deloraine Gas Company	Deloraine, Man	95
Manitou Gas Company	Manitou, Man	70
Souris Consumers Gas Company, Ltd	Souris, Man	110

NOTE.—Carberry Gas Company has discontinued making gas.

APPENDIX K.

STATEMENT showing amount of Electrical Energy, Gas, or Fluid generated or produced for export and for consumption in Canada, under the authority of the Electricity and Fluid Exportation Act, for the year ending 31st day of March, 1923.

NAME OF CONTRACTOR AND PLACE OF BUSINESS	Month	Units produced for export		Units produced for use in Canada		Total output of generating Station or other Source	
		K.W. hours	H.P. years	K.W. hours	H.P. years	K.W. hours	H.P. years
Ontario Power Company, Niagara Falls, Ont.	April	19,823,900	3,020	37,324,900	5,714	57,148,800	8,734
	May	15,304,200	2,342	24,917,700	3,815	40,221,900	6,157
	June	25,594,800	3,918	27,366,100	4,189	52,960,900	8,107
	July	26,629,200	4,077	36,822,800	5,638	63,452 000	9,715
	August	23,617,600	3,615	36,792,800	5,630	60,410,400	9,245
	September	24,531,900	3,757	37,949,200	5,810	62,481,100	9,567
	October	28,402,100	4,346	36,744,300	5,626	65,146,400	9,972
	November	27,332,500	4,185	36,152,900	5,533	63,485,400	9,718
	December	25,958,100	3,972	38,684,400	5,922	64,642,500	9,894
	January	27,420,200	4,199	45,420,200	6,956	72,840,400	11,155
	February	24,722,100	3,785	43,479,000	6,652	68,201,100	10,437
	March	26,512,900	4,060	47,114,400	7,211	73,627,300	11,271
	Totals	295,849,500	45,276	448,768,700	68,696	744,618,200	113,972
Toronto Power Company, Toronto, Ont.	April	8,516,000	1,303	38,840,900	5,944	47,356,900	7,247
	May	8,657,000	1,324	56,262,500	8,615	64,919,500	9,939
	June	8,456,000	1,294	38,618,200	5,913	47,074,200	7,207
	July	8,404,000	1,286	31,695,100	4,850	40,099,100	6,136
	August	8,831,000	1,351	35,483,800	5,430	44,314,800	6,781
	September	8,523,000	1,305	38,380,300	5,842	46,903,300	7,147
	October	8,739,000	1,336	41,935,100	6,420	50,674,100	7,756
	November	8,471,000	1,296	44,416,900	6,800	52,887,900	8,096
	December	8,685,000	1,326	46,129,500	7,060	54,814,500	8,386
	January	8,658,000	1,324	48,955,400	7,496	57,613,400	8,820
	February	7,839,000	1,199	49,450,900	7,567	57,289,900	8,766
	March	10,143,550	1,551	47,862,400	7,312	58,005,950	8,863
	Totals	103,922,550	15,895	518,031,000	79,249	621,953,550	95,144
Cedar Rapids Mfg. and Power Company, Montreal, Que.	April	29,775,000	4,554	21,868,000	3,343	51,643,000	7,897
	May	32,045,000	4,901	24,170,000	3,697	46,215,000	8,598
	June	30,772,000	4,708	23,954,000	3,663	54,726,000	8,371
	July	30,779,000	4,709	25,000,000	3,825	55,779,000	8,534
	August	30,574,000	4,676	25,405,000	3,888	55,979,000	8,564
	September	29,019,000	4,440	25,518,000	3,903	54,537,000	8,343
	October	32,925,000	5,039	28,083,000	4,291	61,008,000	9,330
	November	34,931,000	5,346	29,719,000	4,548	64,650,000	9,894
	December	29,231,000	4,472	27,097,000	4,143	56,328,000	8,615

	January	29,138,000	4,459	25,487,000	3,897	54,625,000	8,356
	February	21,412,000	3,275	23,780,000	3,636	45,192,000	6,911
	March	26,194,000	4,008	28,029,000	4,289	54,223,000	8,297
	Totals	356,795,000	54,587	308,110,000	47,123	664,905,000	101,710
Canadian Niagara Power Company, Niagara Falls, Ont.	April	12,166,400	1,862	25,619,600	3,921	37,786,000	5,783
	May	10,373,300	1,587	32,859,700	5,028	43,233,000	6,615
	June	13,395,650	2,050	29,102,350	4,453	42,498,000	6,503
	July	13,981,850	2,140	28,778,150	4,404	42,760,000	6,544
	August	17,035,450	2,608	29,891,550	4,573	46,927,000	7,181
	September	17,883,650	2,737	28,349,350	4,340	46,233,000	7,077
	October	21,716,100	3,325	26,000,900	3,979	47,717,000	7,304
	November	25,096,750	3,840	21,716,250	3,324	46,813,000	7,164
	December	30,001,400	4,591	19,092,600	2,921	49,094,000	7,512
	January	27,980,150	4,282	18,406,850	2,818	46,387,000	7,100
	February	25,607,750	3,921	16,559,250	2,535	42,167,000	6,456
	March	29,710,300	4,547	18,089,700	2,768	47,800,000	7,315
	Totals	244,948,750	37,490	294,466,250	45,064	539,415,000	82,554
West Kootenay Power and Light Company, Ltd., Rossland, B.C.	April	146,500	22	13,844,300	2,118	13,990,800	2,140
	May	79,400	12	14,777,400	2,262	14,856,800	2,274
	June	50,600	7	14,480,500	2,217	14,531,100	2,224
	July	44,100	6	14,586,400	2,233	14,630,500	2,239
	August	59,200	9	14,302,000	2,189	14,361,200	2,198
	September	52,100	8	14,040,100	2,148	14,092,200	2,156
	October	78,900	12	14,477,100	2,216	14,556,000	2,228
	November	102,500	15	16,075,900	2,461	16,178,400	2,476
	December	91,200	14	17,986,300	2,753	18,077,500	2,767
	January	73,800	11	16,935,800	2,592	16,009,600	2,603
	February	70,000	10	14,209,900	2,174	14,279,900	2,184
	March	50,400	8	17,863,000	2,733	17,913,400	2,741
	Totals	898,700	134	183,578,700	28,096	184,477,400	28,230
Western Canada Power Company, Vancouver, B.C.	April	2,602,600	398	7,275,600	1,113	9,878,200	1,511
	May	2,701,200	413	12,154,600	1,860	14,855,800	2,273
	June	2,520,300	386	11,495,200	1,759	14,015,500	2,145
	July	2,691,800	412	12,156,200	1,861	14,848,000	2,273
	August	3,027,100	463	10,805,300	1,653	13,832,400	2,116
	September	2,787,800	426	10,539,700	1,613	13,327,500	2,039
	October	2,929,200	448	10,523,600	1,610	13,452,800	2,058
	November	2,635,100	403	10,586,800	1,620	13,221,900	2,023
	December	2,084,600	319	7,018,800	1,074	9,103,400	1,393
	January	2,125,500	325	10,204,700	1,562	12,330,200	1,887
	February	3,015,600	461	5,433,000	831	8,448,600	1,292
	March	3,336,900	510	5,512,600	843	8,849,500	1,353
	Totals	32,457,700	4,964	113,706,100	17,399	146,163,800	22,363

APPENDIX K—Concluded.

STATEMENT showing amount of Electrical Energy, Gas, or Fluid generated or produced for export and for consumption in Canada, under the authority of the Electricity and Fluid Exportation Act, for the year ending 31st day of March, 1923.

NAME OF CONTRACTOR AND PLACE OF BUSINESS	Month	Units produced for export		Units produced for use in Canada		Total output of generating Station or other Source	
		K.W. hours	H.P. years	K.W. hours	H.P. years	K.W. hours	H.P. years
Ontario & Minnesota Power Company, Fort Frances, Ont.	April	464,260	71	1,177,211	180	1,641,471	251
	May	1,681,900	257	1,074,483	164	2,756,383	421
	June	1,608,700	246	1,083,122	166	2,691,822	412
	July	1,548,900	237	1,048,365	160	2,597,265	397
	August	928,400	142	1,111,613	170	2,040,013	312
	September	229,900	35	1,115,327	171	1,345,227	206
	October	279,000	43	1,198,079	184	1,477,079	227
	November	291,500	45	1,192,413	182	1,483,913	227
	December	327,100	50	1,220,402	187	1,547,502	237
	January	405,400	62	1,243,487	190	1,648,887	252
	February	497,700	76	1,114,519	170	1,612,219	246
	March	344,000	53	1,197,235	183	1,541,235	236
	Totals	8,606,760	1,317	13,776,256	2,107	22,383,016	3,424
B.C. Electric Railway Company, Vancouver, B.C.	April	31,250	5	9,801,234	1,500	9,832,484	1,505
	May	28,566	4	6,906,134	1,057	6,934,700	1,061
	June	28,813	4	7,236,387	1,107	7,265,200	1,111
	July	22,760	3	6,911,740	1,058	6,934,500	1,061
	August	30,960	5	8,702,840	1,332	8,733,800	1,337
	September	34,366	5	7,680,934	1,176	7,715,300	1,181
	October	50,240	8	9,644,860	1,477	9,695,100	1,485
	November	51,670	8	9,990,030	1,528	10,041,700	1,536
	December	59,218	9	14,369,895	2,199	14,429,113	2,208
	January	49,624	8	11,614,873	1,777	11,664,497	1,785
	February	38,743	6	13,881,657	2,124	13,920,400	2,130
	March	41,143	6	15,185,757	2,323	15,226,900	2,329
	Totals	467,353	71	121,926,341	18,658	122,393,694	18,729
Maine & New Brunswick Electric Power Company, Presque Isle, Maine, U.S.Q.	April	876,344	134	28,756	4	905,100	138
	May	868,162	133	25,238	4	893,400	137
	June	862,416	132	24,884	4	887,300	136
	July	832,872	128	34,428	5	867,300	133

	August	889,650	136	41,750	6	931,400	142
	September	860,066	132	43,344	7	903,410	139
	October	982,325	150	35,475	5	1,017,800	155
	November	1,059,734	162	47,666	7	1,107,400	169
	December	964,966	148	49,834	8	1,014,800	156
	January	1,151,058	176	50,542	8	1,201,600	184
	February	738,915	113	41,785	6	780,700	119
	March	627,417	96	39,283	6	666,700	102
	Totals	10,713,925	1,640	462,985	70	11,176,910	1,710
Sherbrooke Railway and Power Company, Sherbrooke, Que.	April	19,752	3	627,448	96	647,200	99
	May	23,832	4	531,328	81	555,160	85
	June	24,240	4	449,760	69	474,000	73
	July	24,000	4	177,600	27	201,600	31
	August	25,560	4	632,040	97	657,600	101
	September	24,216	4	613,784	94	638,000	98
	October	23,472	4	681,128	104	704,600	108
	November	17,640	3	732,360	112	750,000	115
	December	840	0	597,160	91	598,000	91
	January	0	0	730,400	112	730,400	112
	February	4,695	1	745,105	114	749,800	115
	March	24,100	4	582,300	89	606,400	93
	Totals	212,347	35	7,100,413	1,086	7,312,760	1,121

SUMMARY

Ontario Power Co	295,849,500	45,276	448,768,700	68,696	744,618,200	113,972
Cedar Rapids Mfg. & Power Co	356,795,000	54,587	308,110,000	47,123	664,905,000	101,710
Toronto Power Co	103,922,550	15,895	518,031,000	79,249	621,953,550	95,144
Canadian Niagara Power Co	244,948,750	37,490	294,466,250	45,064	539,415,000	82,554
West Kootenay Power & Light Co	898,700	134	183,578,700	28,096	184,477,400	28,230
Western Canada Power Co	32,457,700	4,964	113,706,100	17,399	146,163,800	22,363
British Columbia Electric Railway Co	467,353	71	121,926,341	18,658	123,393,694	18,729
Ontario & Minnesota Power Co	8,606,760	1,317	13,776,256	2,107	22,383,016	3,424
Maine & New Brunswick Power Co	10,713,925	1,640	462,985	70	11,176,910	1,710
Sherbrooke Railway & Power Co	212,347	35	7,100,413	1,086	7,312,760	1,121
Totals	1,054,872,585	161,409	2,009,926,745	307,548	3,064,799,330	468,957

APPENDIX L.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Charlottetown—										
Leard Electric Light & Power	Alberton			3–2	60	2,200	220	110		95
Chas. Murray Electric Light Co	Bradalbane	Water		D.C.		110		110		15
Cardigan Electric Company, Ltd	Cardigan	Purchased							1	27
Maritime Electric Company, Ltd	Charlottetown	Gas and steam		3–1	60	2,200	220	110	134	2,113
Geo. E. Leard & Son	Crapand	Water		2	60	2,200		110		38
J. A. Monaghan	Emerald	Water		3	60	2,200	2,200	110		125
The Hunter River Electric Light Co.	Hunter River	Water		3	60	2,200		110		26
The Montague Electric Co., Ltd	Montague	Water		1–3	60	2,250	110/220	110	15	244
Mt. Stewart Electric Light Company	Mt. Stewart	Oil				110		110		9
Charles W. Ives	North Tryon	Water and steam		3	60	2,200		110		45
The Town of Souris	Souris			1–3	60	2,300		110		50
The Town of Summerside	Summerside	Gas and steam		2	133	1,100		110		54
Halifax—										
The Town of Annapolis	Annapolis	Water		2	66	2,500	104	104		8
Antigonish Electric Company	Antigonish	Oil		D.C.		115/230	115/230	115	1	200
Canada Electric Company, Limited	Amherst	Steam		1–3	60	2,200	2200/550/220	110/115/220/230	66	1,652
Electric Light Commission	Aylesford	Purchased								68
Barrington Electric Company, Ltd	Barrington	Water		1–3	60	2,300		110		18
Barss Corner Electric Light Co., Ltd.	Barss Corner	Purchased						110		18
The Bear River & Digby Elec. Lt., Ht. & Pr. Co	Bear River	Water		3	60	2,200		110		32
Light & Water Commissioners	Berwick	Water		3	60	2,300	110	110		170
The Bridgetown Elec. Lt. Ht. & Pr. Co., Ltd	Bridgetown	Water		1	60	2,200		110		260
The Town of Bridgewater	Bridgewater	Water		2	60	2,200	110/220	110	3	636
Canard Elec. Lt. & Pr. Co., Ltd	Canard	Purchased		3				2,300	1	72
Canning Water Commissioners	Canning	Purchased		3	60	2,300	220	110	2	137
The Town of Canso	Canso	Gas		3	60	2,200	220	110	1	240
Dartmouth Gas. Elec. Lt. Ht. & Pr. Co., Ltd	Dartmouth	Purchased		3–1	60		550/220	110	53	1,686
Electric Light Heat & Power Co	Digby	Water				2,300		110		240
The Town of Dominion	Dominion	Purchased			25			110		275
The Gaspereau Valley Elec. Lt. Co., Ltd	Gaspereau			1–3	60	2,300	110	110	1	42
The Town of Glace Bay	Glace Bay	Water		1–2	60	2,200	110	110	12	1,661
The Dominion Coal Company, Ltd.	Glace Bay	Steam		1–3	25	2200/6600	550|2200|6600	110/220		

Sackville River Electric Co., Ltd	Halifax	Purchased		3	60	2,200		110/220		195
Nova Scotia Power Commission (Mushamush Dev.)	Halifax	Water		3	60	6,600	6600/3300		2	
Nova Scotia Power Commission (St. Margaret's Bay Dev.)	Halifax	Water		3	60	13,200	13,200		3	
Nova Scotia Tramways & Power Co., Ltd	Halifax	Steam		1-3	60	2,300	220/550/2300	110	644	9,268
Lower Horton Elec. Co., Ltd	Hortonville	Purchased								37
Inverness Railway & Coal Co	Inverness			D.C.		125		115/125		
Kentville Electric Commission	Kentville	Purchased		3	60	2,300		110	6	530
The Electric Lt. Com's, Upper Church St	Kentville	Purchased		1	60			110		13
Kingsport Electric Lt. Co., Ltd	Kingsport	Purchased		3	60	2,300	110	110		14
Lawrencetown Electric Light Com	Lawrencetown	Water		1	60	2,200		110		105
The Town of Liverpool	Liverpool	Water		2-3	60	2,400	220/550	110		
The Town of Louisburg	Louisburg	Purchased								2
Lunenburg Gas Company, Ltd	Lunenburg			3	60	6,600	110/220	110	6	584
The Town of Mahone Bay	Mahone Bay			1	60	2,300	116	110	3	115
Electric Light and Power Plant	Middleton	Water		3	60	2,300	220	110/120	6	303
Electric Lt. Power & M'fg. Co., Ltd.	Milton	Water		3	60	3,200		3,200		
Electric Light & Power Co., Ltd	Morristown	Water		3	60	2,200		110	1	24
Zwicker Electric Lt. & Power Co	New Germany	Water		1-3	60	2,300		110		
Pictou Co. Electric Company, Ltd	New Germany	Steam		1-3	60	2,300	110/220	104/108/112	96	2,592
Dominion Utilities Co., Ltd	New Waterford			1	25	2,200	220/110	110	3	794
Oxford Elec. Light & Power Co., Ltd.	Oxford	Water		1-3	60	2,200	220	110		31
The Paradise West Electric Light Co., Ltd	Paradise West	Purchased		1	60	2,200		110		29
The Town of Parrsboro Electric Light Pt	Parrsboro	Oil and steam		1-2	60	2,200		104		212
The Town of Picton	Picton	Steam		1-3	60	2,300	2300/550 220/110	110	5	535
Riverport Electric Light Commission.	Riverport	Water		2-3	60	6,600	220	110	2	190
Sheffield Mills Light & Power Co., Ltd	Sheffield Mills	Purchased		1-3	60	2,300		110		24
Somerset Elec. Light & Power Co., Ltd	Somerset									41
South Berwick Elec. Light Com., Ltd.	South Berwick	Purchased		3	60	2,200	110	110		25
Edison Elec. Light & Power Co. of Springhill, Ltd	Springhill			1-2	60	2,300	550	110	1	739
The Acadia Coal Co., Ltd	Stellarton	Steam		1-3	50	3,150	220	110	2	42
The Stewiacke Electric Lt. & Pr. Co., Ltd	Stewiacke	Steam		1-3	60	2,300		110		123
Sydney Mines Electric Company, Ltd. (District of Florence.)	Sydney Mines	Steam		1-2	60	2,200	110/220	110/220		
Cape Breton Electric Company, Ltd.	Sydney	Steam		1-2	60	2,200	110/220	110/220	165	5,583
The Truro Electric Light Commission	Truro	Steam		3	60	2,300	110/220	110/220	50	1,451
Waterville & Cambridge Electric Ligh & Pr Co., Ltd	Waterville			1-3	60	2,300		110		60

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Halifax—Concluded.										
The Windsor Electric Lt. & Pr. Co., Ltd	Windsor	Steam			60	1,100		110	5	523
Aron River Power Company, Ltd	Windsor	Purchased		3	60	2,300		110		
Wolfville Electric Commission	Wolfville	Purchased		3	60	2,300	220	110	9	401
Gaspereau River Light Ht. & Pr Co., Ltd	Wolfville	Water		1-3	60	2,300	220	110		
Yarmouth Light & Power Co., Ltd	Yarmouth	Water		1-3	60	2,300	220	110	42	897
St. John—										
The Andover-Perth Electric Lt. Commissioners	Andover	Purchased		1-3	60	11,000	110/220	110	15	210
Maine & N.B. Electric Power Co., Ltd	Aroostock Jct	Hydro		1-3	60	11,000	550/220	110	2	80
Bathurst Electric & Water Power Co., Ltd	Bathurst	Water		3	60	6,600	2,200	110	144	510
The Town of Campbellton	Campbellton	Gas,		1-3	60	2,300	110/220/550	110/220	30	958
Robert S. Dion	Canterbury	Gasoline		D.C.		32	32	32		
Town of Chatham Light Department	Chatham	Oil		1-2-3	60	2,300	224	112	14	575
King Lumber Company, Ltd	Chipman	Steam		D.C.		125	110	110		16
C. M. Sherwood, Ltd	Centreville	Water		D.C.		120		110		
The Town of Dalhousie	Dalhousie	Gas		3	60	2,300	220	110	2	209
The Dorchester Development Co., Ltd	Dorchester	Purchased		1	60	2,200	2,200	110	1	100
Dorchester Penitentiary	Dorchester	Steam		1	60	2200/110		110		32
The Town of Edmundston	Edmundston	Water		3	60	2,200	220/550	110	4	640
Fort Kent Electric Company	Fort Kent	Purchased		1	60	2,300	110	110	1	83
Maritime Electric Co., Ltd	Fredericton	Steam		1-2	60	2,200	110/220	110	45	1,755
The Town of Grand Falls	Grand Falls	Purchased		1-3	60	33,000	2200/220/110	110	7	195
Red Ball Garage	Hartland	Oil		D.C.		110	110	110		28
A. & R. Loggie Co., Limited	Loggieville	Steam		D.C.		110	110	110		
Canadian Cottons, Limited	Marysville	Steam		3	60	2,200	550	110		219
Moncton Tramways Electricity & Gas Co., Ltd	Moncton	Steam		2	60	1,100	110/220/550	110	72	3,415
The Town of Newcastle	Newcastle	Steam		1-2	60	2,200	220/110	110	7	520

S. C. Hayward & Sons	Port Elgin	Steam				220	220	220		67
Richibucto & Rexton Elec. Lt. Commissioners	Richibucto	Water		1-3	60	2,200	220	110	2	124
The Eastern Electric & Development Co., Ltd	Sackville	Steam		3	60	2,300	220	110/220	7	390
The Shediac Electric Light & Power Co	Shediac	Water		3	60	2,300	250	110	1	116
The Minto Coal Company, Limited	South Minto	Steam		2-3	60	2,300	220	110		40
C.P. Ry. Algonquin Hotel	St. Andrews	Steam		1-3	60	2,200	2,200	110/220	1	
The St. Andrews Elec. Lt. & Power Co., Ltd	St. Andrews	Steam		1-3	60	2,200	220/110	110		150
St. Basile Electric Co., Ltd	St. Basile	Purchased		2	60	2,200	110/220	110	2	15
New Brunswick Elec. Pr. Commission	St. John	Water		1-3	60	13,200	220	110	4	66
New Brunswick Elec. Pr. Commission	St. John	Purchased							2	
New Brunswick Power Company	St. John	Steam		1-3	60	2,300	2300/110 230/250	110	370	8,827
St. Joseph's College	St. Joseph	Steam		D.C.		115	115	110		4
The St. Leonard Electric Co., Ltd	St. Leonard	Purchased		1	60	110	110	110	1	104
The Town of St. George	St. George	Water		3	60	2,200		110		100
Calais Street Railway of Calais	St. Stephen	Purchased		1-3	60	2,200	220	110	7	9
Maritime Electric Company, Ltd	St. Stephen	Hydro		1-3	60	2,300	220	110	37	924
The Town of Sussex	Sussex	Hydro		1-3	60	2,200	220	110	4	435
The Woodstock Elec. Ry. Lt. & Pr. Co	Woodstock	Water		1-3	60	2,200	2200/530/220	220/110	15	700
Quebec—										
Philibert Langlois	Armagh	Water				2,200		110		68
Cie Electrique Baie St. Paul	Baie St. Paul			1-2	60	2,300	550/110	110		
Ferdinand Fortin	Chamboid	Purchased		2-3	60	2,200	550	110	2	132
La Cie de Pulpe Chicoutimi	Chandler	Steam		3	60	600	600	110		212
La Cie d'Eclairage et d'Energie Electrique du Saguenay	Chicoutimi	Water		3		60	55/220/110	110	50	900
La Cie Hydrauliqué de Portneuf, Limitée	Deschambault	Purchased		3	60	6,600	220/550	110		
The Donnacona Paper Co., Ltd	Donnacona	Water		3	60	550	550	110	5	15
La Municipalité East Broughton	East Broughton			3	30	110		2,200	1	198
La Compagnie Centrale d'Electricité, Limitée	Hébertville			2-3	65	2,200		110		
Eugène Côté	L'Isle Verte			3	60	2,200	220	110		49
La Ville de Jonquières	Jonquières			3	60	2,300	2,300	110	3	150
Price Bros Company, Ltd	Kenogami	Water		1-3	60	6,600	550	110		700
La Cie Electrique de St. Vital, Ltée	Lambton			2	60			110	1	77
Canadian Electric Light Company	Lévis	Water		3	66-	10,500	110/550/2200	110	247	3,415
Price Bros Company, Ltd	Matane	Water		3	60	2,200	220/550	110		54
Rouleau, Limitée	Mont-Joli	Gas		3	60	2,200		110		220
Basin Electric Light & Power Co	Montmagny	Water and steam		3	60	2,200	110/220/550	110	2	500
La Cie Electrique de Montmagny	Montmagny	Purchased		1-3	60	2,200	550	110/220	9	311
Dononhue Bros, Limited	Murray Bay			3	60	4,400	550/220	110/220	1	240
La Municipalité du Village de Neuville	Neuville	Purchased		1	60		220	110		96

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Quebec—Concluded.										
La Cie Electrique Plessis	Plessisville			1-3	30		2200/550	110	24	441
La Cie Chas. A. Julien, Limitée	Pont Rouge			3	60	2,300	550	110		
Public Service Corporation of Quebec	Quebec	Steam		1-2-3	60	2,300	2,300/550	220/110	165	8,300
The Quebec Ry. Light Heat & Power Co	Quebec	Water		1-2-3	64	2,000/5,500	2,200/110	110	712	14,240
La Cité de Rivière du Loup	Rivière du Loup			2-3	60	2,300	220/110	110	8	1,200
La Ville de Robervale	Robervale	Water		1	60	104/220		104		331
Albert Deblois	St. Anselme			2	125	2,200		110		26
La Cie Electrique de St. Apollinaire	St. Appollinaire	Steam				110		110		21
Hector Piche	St. Basile	Purchased						110		112
La Cie Energie Electrique de St. Come	St. Côme	Purchased		1	60	6,600	110	110		
Municipalitè Village de Bernierville	St. Ferdinand	Purchased			30		550		1	66
La Cie Hydraulique St. Felicien	St. Félicien			3	60	2,200	110/220/550	110		140
Gédéon Gagné	St. George			1-3	60	6,600	550/220	110		
La Cie Electrique de St. Prime	St. Prime	Water		2-3	60	6,600	6,600	110		87
Municipalité Village St. Raymond	St. Raymond	Water		2-3	60	1,100	550	110	4	30
Beauce Electric Power Company	Thetford Mines	Water		3	60	15,000	2,200/550	110	14	650
Thetford Mines Electric Company	Thetford Mines	Purchased		1-3	30		550	110	12	645
St. Francis Water & Power Company	Thetford Mines	Water		3	60	2,400	2,400	110	4	110
La Ville de Trois Pistoles	Trois Pistoles			2-3	60	2,200	110	110		115
Three Rivers—										
Arthabaska Water & Power Co	Arthabaska	Purchased		3	30	2,200	2,200/220	110	1	210
North Shore Power Company	Batiscan	Water		3-1	60	2,200	550	110/220	1	60
Electric Service Corporation	Berthierville	Water		3-1	60	2,200	2,200/220	110/220	10	339
The Sorel Light & Power Co., Ltd	Boucherville	Purchased		3-1	60	11,000	550	110/220	1	138
North Shore Power Company	Cap de la Madeleine	Water		3-1	60	2,200	550	110/220	7	1,281
North Shore Power Company	Champlain	Water		3-1	60	2,200	550	110/220	3	143
La Compagnie d'Eclairage de Yamachiche Ltée	Charette	Purchased		3-1	60	13,200	220	110/115		60
The Sorel Light & Power Co., Ltd	Contrecoeur	Purchased		3-1	60	11,000	550	110/220	1	119
North Shore Power Company	Deschambault	Water		3-1	60	2,200	550	110/220		50
J. O. Ricard	Grand'Mère	Purchased		3-1	60	2,220	220	110	1	198
Corporation of City of Grand'Mère	Grand'Mère	Purchased		3	60	2,200	220/550	110	156	1,410

Laurentide Power Company Ltd	Grand'Mère	Water		3	62	6,600	6,600		9	
L. J. Dostaler	Grand'Mère	Purchased		3-2	60	2,200/110	220/110	110	2	175
La Corporation de la cité de Joliette	Joliette	Water		1-2-3	60	2,000/240	110/220/550	110	45	1,885
Electric Service Corporation	La Baie du Febvre	Hydro		1-3	30	2,200	2,200/220	110/220	3	68
North Shore Power Company	Lachevrotière	Hydro		1	60	2,200		110/220	1	
Electric Service Corporation	Lanoraie	Hydro		1-3	60	2,200	2,200/220	110/220	2	49
Brown Corporation	La Tuque			1-3	60	2,300	550	110	16	92
Louiseville Light, Heat & Power Mfg., Co.	Louiseville	Purchased		3	60	50,000	550	110	2	240
Adelard Lemyre	Maskinonge	Purchased		3	60		550	110	1	100
The Shawinigan Water & Power Co.	Montreal	Hydro		1-2-3	60	2,200/11,000	2200/100,000	110	80	
Electric Service Corporation	Nicolet	Hydro		1-3	30	2,200	2,200/220	110/220	16	238
Electric Service Corporation	Pierreville	Hydro		1-3	30	2,200	2,200/220	110/220	8	135
North Shore Power Company	Pointe du Lac	Hydro		1	60	2,200		110/220		23
North Shore Power Company	Portneuf	Hydro		1-3	60	2,200	550	110/220	1	156
Electric Service Corporation	Shawinigan Falls	Hydro		1-3	60	2,200	2,200/220	110/220	61	3,250
The Sorel Light & Power Co., Ltd	Sorel	Purchased		1-3	60	11,000	550	220/110	38	1,358
North Shore Power Company	St. Alban	Hydro		1	60	2,200		110/220		69
North Shore Power Company	Ste Angèle	Hydro		3-1	30	2,200	220	110/220	2	133
North Shore Power Company	Ste. Anne de la Perade	Hydro		3-1	60	2,200	550	110/220	4	152
La Compagnie d'Eclairage de Yamachiche Ltée	St. Barnabé	Purchased		3-1	60	13,200	220	110/115		90
Louiseville Light, Heat Pr. Mfg., Co.	St. Barthelemy			3-2	60	50,000	550	110	1	118
North Shore Power Company	St. Basile	Hydro		3-1	60	2,200	550	110/220	2	
La Compagnie d'Eclairage de Yamachiche Ltée	St. Boniface	Purchased		3-1	60	13,200	220	110/115		65
North Shore Power Company	St. Casimir	Hydro		3-1	60	2,200	550	110/220	18	297
La Cie d'Eclairage de Yamachiche Ltée	St. Elie de Caston	Purchased		3-1	60	13,200	220	110/115		37
Jeremie Beauparlant	St. Emelie de l'Energie			3	60	2,200	300	110		20
La Corporation du Village de	St. Gabriel de Brandon			3	60		25,000	110	6	284
North Shore Power Company	Ste. Geneviève	Hydro		3-1	60	2,200	550	110/220	7	119
Electric Service Corporation	St. Grégoire	Hydro		1-3	30	2,200	2,200/220	110/220	5	75
La Cie Rurale de Lumière et Pouvoir Ltée	St. Guillaume	Purchased		1-3	60	2,200		110		
The Sorel Light & Power Co., Ltd	St. Joseph de Sorel	Purchased		1-3	60	11,000	550	220/110	1	131
Louiseville Light, Ht., Power & Mfg., Co.	St. Justin	Purchased		3-2	60	50,000		110		40
North Shore Power Company	St. Louis de France	Hydro		3-1	60	2,200	550	110/220	1	
North Shore Power Company	St. Marc	Hydro		3-1	60	2,200	550	110/220	5	138
North Shore Power Company	St. Maurice	Hydro		3-1	60	2,200	550	110/220	2	71
North Shore Power Company	St. Narcisse	Hydro		3-1	60	2,200	550	110/220	1	148
The Sorel Light & Power Co., Ltd	St. Ours	Hydro		3-1	60	11,000	550	220/110	2	108
La Cie d'Eclairage de Yamachiche Ltée	St. Paulin	Purchased		3-1	60	13,200	220	110/115		62

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Three Rivers—Concluded.										
The Sorel Light & Power Co., Ltd....	St. Roch.....	Purchased.....	.....	3-1	60	11,000	550	220/110	.....	45
Electric Service Corporation.....	St. Séverin.....	Hydro.....	.....	1-3	60	2,200	2,200/220	110/220	.....	48
La Compagnie d'Eclairage de Yamachiche Ltée.....	St. Sévère.....	Purchased.....	.....	3-1	60	13,200	220	110/115	.....	31
North Shore Power Company.....	St. Stanislas.....	Hydro.....	.....	3-1	60	2,200	550	110/220	1	90
Electric Service Corporation.....	St. Thècle.....	Hydro.....	.....	3-1	60	2,200	2,200/220	110/220	3	181
Electric Service Corporation.....	St. Tite.....	Hydro.....	.....	3-1	60	2,200	2,200/220	110/220	16	300
Edouard Paquin.....	Ste Ursule.....	Hydro.....	.....	1	60	.....	110	110	2	47
North Shore Power Company.....	Three Rivers....	Hydro.....	.....	3-1	60	2,200	550	110/220	153	5,200
The Sorel Light & Power Company...	Varennes.....	Purchased.....	.....	3-1	60	11,000	550	110/220	2	105
The Sorel Light & Power Company...	Verchères.....	.....	.....	3-1	60	11,000	550	110/220	3	135
Arthabaska Water & Power Co.....	Victoriaville.....	.....	.....	3	30	2,200	2,200/220	110	27	757
Continental Heat & Light Co.....	Warwick.....	Purchased.....	.....	3-1	30	2,200	2,200/110	110	4	110
La Cie d'Eclairage de Yamachiche, Ltée.....	Yamachiche.....	Purchased.....	.....	3-1	60	13,200	220	110/115	1	122
Sherbrooke—										
Municipality of Village of Asbestos....	Asbestos.....	Purchased.....	.....	.....	30	.....	.....	110	.....	275
Southern Canada Power Company, Ltd.....	Ayers Cliff.....	Water.....	.....	1-3	60	2,300	550	110	6	161
Southern Canada Power Company, Ltd.....	Beebe.....	Water.....	.....	1-3	60	2,300	550	110	10	189
Southern Canada Power Co., Ltd.....	Bromptonville....	Water.....	.....	1-3	60	2,300	550	110	2	257
The Vermont & Quebec Power Corporation.....	Burlington Vt....	Hydro.....	.....	1-3	60	2,300	440	110	12	1
Southern Canada Power Co., Ltd.....	Capelton.....	Water.....	.....	1-3	60	2,300	550	110	1	27
Corporation of Coaticook.....	Coaticook.....	Water.....	.....	1-3	60	2,200	200/550/220	110	.....	854
Westbury Elec. Lt. & Power Co.....	Cookshire.....	Water.....	.....	3	60	3,000	550	110	15	1,035
Southern Canada Power Co., Ltd.....	Compton.....	Water.....	.....	1	60	2,300	.....	110	.....	64
Municipality of Village of Danville....	Danville.....	Purchased.....	.....	3	30	2,200	2,200 220 110	110	24	268
La Cie Champoux.....	Disraeli.....	Water.....	.....	.....	60	.....	.....	110	.....	.....
J. B. Parker.....	Dixville.....	Water.....	.....	D.C.	.....	115	.....	115	1	1
Southern Canada Power Co., Ltd.....	Eastman.....	Water.....	.....	3	60	48,000	.....	.....	1	.....
Southern Canada Power Co., Ltd.....	Eustis.....	Water.....	.....	1-3	60	2,300	550	110	1	16

Southern Canada Power Co., Ltd.	Foster	Water		1-3	60	2,300	550	110		67
Southern Canada Power Co., Ltd.	Granby	Water		1-3	60	2,300	550	110	30	1,385
Southern Canada Power Co., Ltd.	Graniteville	Water		1-3	60	2,200	550	110	3	7
Southern Canada Power Co., Ltd.	Hatley	Water		1-3	60	2,300		110		45
Southern Canada Power Co., Ltd.	Huntingville	Water		1-3	60	2,200	550	110	1	20
Southern Canada Power Co., Ltd.	Kingsbury	Water		1-3	60	2,300	550	110		39
Southern Canada Power Co., Ltd.	Knowlton	Water		1-3	60	2,300	550	110		248
Southern Canada Power Co., Ltd.	Lennoxville	Water		1-3	60	2,300	550	110	15	507
La Corporation de la ville de Magog	Magog	Hydro		2	60	2,400	2,200	108		900
Southern Canada Power Co., Ltd.	Magog	Water		3	60	2,200			1	
Mrs. O. V. Brouillette	Mansonville	Water		2	133	1,600		110		66
Southern Canada Power Co., Ltd.	Massawippi	Water		1-3	60	2,300	550	110		28
Southern Canada Power Co., Ltd.	Melbourne	Water		1-3	60	2,300	550	110	2	95
Corporation de la ville de Megantic	Megantic	Gas		3	60	110		110		435
Southern Canada Power Co., Ltd.	North Hatley	Water		1-3	60	2,300	550	110	6	240
Southern Canada Power Co., Ltd.	New Rockland	Water		1-3	60	2,300	550	110		15
Southern Canada Power Co., Ltd.	Richmond	Water		1-3	60	2,300	550	110	14	678
Southern Canada Power Co., Ltd.	Rock Island	Water		1-3	60	2,300	550	110	22	330
Three Villages Bldg. Assoc., Ltd	Rock Island	Water		D.C.		110	110	110		
Arthur Benoit	Roxton Falls	Water		1	133	150		100		39
The Canadian Telephone Company (Marbleton)	Sawyerville	Purchased		1-3	60	2,200		110		64
The Canadian Telephone Co. (Bishop's Crossing)	Sawyerville	Purchased		1-3	60	2,200		110		83
The City of Sherbrooke (Weedon Pt.)	Sherbrooke	Water		3	60	2,300	2300/550/440	110		
The City of Sherbrooke (Rock Forest Plant)	Sherbrooke	Water		3	60	6,600	2300/550/440	110		
The City of Sherbrooke (Frontenac St. Plant)	Sherbrooke	Water		3	60	2,300	2300/550/440	110	536	6,043
Southern Canada Power Co., Ltd.	Sherbrooke	Water		1-3	60	2,300	550	110	2	12
Southern Canada Power Co., Ltd.	Stanstead	Water		1-3	60	2,300	550	110	8	173
The Corporation of Village of Sutton	Sutton	Purchased		3	60	6,600	550	110	8	175
Southern Canada Power Co., Ltd.	Waterloo	Water		1-3	60	2,300	550	110	14	436
Southern Canada Power Co., Ltd.	Waterville	Water		1-3	60	2,300	550	110	7	143
Southern Canada Power Co., Ltd.	Way's Mills	Water		1-3	60	2,300	550	110	3	20
Southern Canada Power Co., Ltd.	West Shefford	Water		1	60	2,300		110	4	85
The Corporation of Town of Windsor	Windsor	Purchased		3-2	30	2,200	220/110	110	11	400
Montreal—										
Southern Canada Power Co., Ltd.	Actonvale	Substation		1-3	60	2,300	550	110	8	230
La Ville de Beaconsfield	Beaconsfield			2-3	60		2,200	110		
Beauharnois Electric Company, Ltd.	Beauharnois	Purchased		1-3	60	6,600/2,200	550/220	110	15	1,127
The Corporation of Bedford	Bedford			1	133	1,000		110		134
La Ville de Beloeil	Beloeil	Purchased		2-3	60	25,000	550	110	10	463
Southern Canada Power Co., Ltd.	Beloeil	Substation		3	60	2,300	550		3	
The Sorel Light & Power Co., Ltd.	Boucherville	Purchased		1-3	60	11,000	550	220/110	1	138
Laval Electric Company	Charlemagne	Purchased		1-3	60		220/2,200	115	6	119
Bennett Limited	Chambly Canton	Purchased		2-3	63	2,100	2,100/550 220/110	110	30	375
Raymond St. Germaine et Cuddiby	Côte de Liesse	Purchased				2,200		110		20

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Montreal—Continued.										
Southern Canada Power Company, Ltd	Cowansville	Substation		1-3	60	2,300	550	110	6	303
Corporation de la ville de Dorval	Dorval	Purchased		3	60	2,200	550/220	110/220	2	380
Southern Canada Power Company, Ltd	Dunham	Substation		1-3	60	2,300	220	110	1	94
Southern Canada Power Company, Ltd	Drummondville	Water		1-3	60	2,300	550	110	37	800
Southern Canada Power Company, Ltd	East Farnham	Substation		1-3	60	2,300	550	110	3	33
The Town of Farnham	Farnham	Water & Steam		3	60	2,300	550	110	5	725
Town of Greenfield Park	Greenfield Park	Purchased		1-3	60		2,200	110		280
James Gordon Dunn	Huntingdon	Water		1-3	60	2,200	550/220	110		315
Southern Canada Power Co., Ltd	Iberville	Substation		1-3	60	2,300	550	110	22	473
Laval Electric Company	Joliette	Purchased		3	60		220/2,200			
Laval Electric Company	L'Assomption	Purchased		1-3	60		220/2,200		5	191
Laval Electric Company	Lachenaie	Purchased		1-3	60		220/2,200	115		83
La Cité de Lachine	Lachine	Purchased		3	60	10,000	1,100/550	110	58	2,961
Corporation de la ville de Laprairie	Laprairie	Purchased		1-3	60	2,200	550	110	10	312
La Cie Electrique des Laurentides	Laurentides	Water		1-3	60	6,600	550	110	1	1,007
Laval Electric Company	Laval-sur-le-Lac	Purchased		1-3	60		220/2,200	115		74
Laval Electric Company	L'Epiphanie	Purchased		1-3	60		220/2,200	115	2	126
La Corporation de la ville de Marieville	Marieville	Purchased		1-2	60	2,200	550	110		314
Laval Electric Company	Mascouche	Purchased		1-3	60	2,200/4,400	220/2,200	115	1	67
Montreal Lt. Ht. & Pr. Consolidated	Montreal	Water & Steam		1-2-3	60	6,000/12,000	115/70,000	115/230	2,843	141,721
United Power Company, Limited	Montreal	Purchased		1	60	2,200		110		69
Quebec-New England Hydro Elec. Com	Montreal	Purchased		1-3	60	13,200 4,400 2,200	220/550	110	405	13,875
J. B. Walsh	Ormstown	Water		1-3	60	2,300		110		101
La Ville de Pointe Claire	Pointe Claire	Purchased		1-3	60		550/220	110	8	876
Southern Canada Power Company, Ltd	Providence	Substation		1-3	60	2,300	550	110	1	190

Laval Electric Company	Repentigny	Purchased		1-3	60		220/2,200	115			98
Laval Electric Company	Rosemere	Purchased		1-3	60		220/2,200	115			154
Southern Canada Power Company, Ltd	Rougemont	Substation		1-3	60	2,300	550	110	2		88
M. S. Cornall & Sons	Stanbridge	Water		1	60	110		110			25
Ville Ste. Agathe des Monts	Ste. Agathe des Monts.	Water		3	60	2,200	220/550 2,200/550	110	10		615
Corporation de la Ville de Ste. Anne de Bellevue	Ste. Anne de Bellevue.	Purchased		1-3	60	2,200	220/110	110	12		521
Southern Canada Power Company, Ltd	St. Antoine	Substation		1-3	60	2,300	550	110	2		40
La Compagnie d'Electricité de St. Constant, Ltée	St. Constant	Purchased		3	60	550	550	110	2		95
Southern Canada Power Company, Ltd	St. Césaire	Substation		1-3	60	2,300	550	110	8		157
Southern Canada Power Company, Ltd	St. Cyrville	Substation		1-3	60	2,300	550	110	7		112
Laval Electric Company	St. Eustache	Purchased		1-3	60		220/2,200	115	1		327
Laval Electric Company	St. François de Sales	Purchased		1-3	60		220/2,200	115	3		
Pierrefond Electrique	Ste. Geneviève	Purchased				2,300	220	110	2		155
Southern Canada Power Company, Ltd	St. Germain	Substation		1-3	60	2,300	550	110	5		92
Southern Canada Power Company, Ltd	St. Hilaire	Substation		1-3	60	2,300	550	110	2		50
La Corporation du Village de St. Hilaire	St. Hilaire	Purchased		1-3	60	220	110	110	1		1,261
La Cie d'Energie Electrique de St. Hubert	St. Hubert	Purchased		3	60	25,000	2,200	110	1		80
Southern Canada Power Company, Ltd	St. Hughes	Substation		1-3	60	2,300	550	110	2		115
Southern Canada Power Company, Ltd	St. Hyacinthe	Substation		1-3	60	2,300	550	110	80		2,200
La Ville de St. Jérôme	St. Jérôme	Water		1-3	60	6,600	550/220	110	5		1,211
Southern Canada Power Company, Ltd	St. Johns	Substation		1-3	60	2,300	550	110	56		1,760
Southern Canada Power Company, Ltd	St. Joseph	Substation		1-3	60	2,300	550	110	3		100
Mde. Jos. Vauchesting	St. Jovite			3	60	2,300		110			30
La Lumière Electrique, Ste. Julie de Verchères	Ste. Julie	Oil		D.C.		220	220	220			
City of St. Lambert	St. Lambert	Purchased		1-3	60	2,200	110/550/2200	110	8		2,075
Southern Canada Power Company, Ltd	Ste. Madeleine	Substation		1-3	60	2,300	550	110	3		68
La Compagnie Electrique de St. Martin, Limitée	St. Martin	Purchased		1	60	2,200		110			55
Nap. Bélanger	St. Pie	Water		1-3	60	2,200		110			25

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Montreal—Concluded.										
Southern Canada Power Company, Ltd	St. Mathias	Purchased		1	60	2,300		110		42
Laval Electric Company	St. Paul l'Ermite	Purchased		1-3	60		220/2,200	115	1	89
Edouard Leclere	St. Roch l'Achigan	Water		2	60	2,200			10	
Southern Canada Power Company, Ltd	Ste. Rosalie	Substation		1-3	60	2,300	550	110	2	715
Laval Electric Company	Ste. Rose	Purchased		1-3	60		220/2,200	115	3	529
W. Clark, Limited	St. Remi	Steam		1-3	60	2,200	220	110	16	185
Laval Electric Company	Ste. Thérèse	Purchased		1-3	60		220/2,200	115	8	571
Canadian Light & Power Co	St. Timothée	Water		1-3	60	2,200	48,000	110/220	2	59
La Municipalité de St. Vincent de Paul	St. Vincent de Paul			1-3	60	2,300	2,300	110	1	252
Southern Canada Power Company, Ltd	Sweetsburg	Substation		1-3	60	2,300	550	110		63
La Municipalité du Village de Upton	Upton				160		110			46
The Valleyfield Electric Company	Valleyfield	Steam		3	60	2,300	110/220	110/220	67	1,337
Westmount Light & Power Dept	Westmount	Steam		1-3	60	2,200	110/550	110	5	3,465
Corporation of City of Verdun	Verdun	Steam		3	60	2,300	2300/550/440	110	224	4,017
La Ville de Terrebonne	Terrebonne	Purchased		3-2	60		220/110 220	110	7	300
Ottawa—										
Public Utilities Commission	Alexandria	Purchased		3	60	44,000	4,000	110/220	19	340
Police, Village of Alfred	Alfred	Steam		D.C.			110	110	110	65
Almont Electric Light Com	Almont	Water		3	60	2,200	550/220	115	6	552
Apple Hill Hydro Electric System	Apple Hill	Hydro		1-3	60	4,400	220	110	1	43
Galetta Electric Pr. & Milling Co., Ltd	Arnprior	Water		1-3	60	2,300	2,200/110	110/220	12	1,079
Albert MacLaren	Buckingham	Water		1-2	60	2,300		110		
G. E. Higginson	Calumet	Water		1	125	1,100		110		
J. G. Wilson	Campbell's Bay	Water		3	60	2,300		110		85
Western Quebec Power Company	Carillon, Que	Hydro		3	60	2,200	550	110		30

Public Utilities Commission	Carleton Place	Water		1-3	60	4,400	2,200	110	14	873
Western Quebec Power Company	Cascades Point, Que	Hydro		3	60	2,200	550	110		45
J. N. Coupal	Casselman	Water		1-3	60	2,300	440	110		2
Western Quebec Power Company	Cedars, Que	Hydro		3	60	2,200	550	110		105
Hydro Electric System	Chesterville	Hydro		1-3	60		220	110	2	215
The Village of Cobden	Cobden	Water		3	60	2,300	2,200	110	2	116
Western Quebec Power Company	Como, Que	Hydro		3	60	2,200	550	110		50
The Stormont Electric Lt. & Pr. Company, Ltd	Cornwall	Water		1-3	60	2,200	220/550	110/220		1,700
Western Quebec Power Co., Ltd	Coteau Junction	Hydro		3	60	2,200	550	110	1	391
St. Lawrence Power Company, Ltd.	Cornwall	Water		3	60	22,000	550	110	7	237
Messrs. Mills & Weeks	Eganville	Water		3-2	60	2,300	220			65
F. T. Cross	Farm Point	Water		3	60	4,400		110		200
Fassett Electric Co., Ltd	Fassett	Water		3	60	440		110		
The Hawkesbury Elec. Lt. & Pr. Co., Ltd	Grenville	Water		3	60	10,000/17500	575/220/110	110		58
Riordon Company, Limited	Hawkesbury	Hydro		3	60	16,500	550	110	4	33
The Hawkesbury Elec. Lt. Ht. & Pr. Co., Ltd	Hawkesbury	Water		3	60	10,000/17500	575/220/110	110	24	229
The Hull Electric Company	Hull	Water		3-1	60	2,200/11,000	220/550	110	29	3,213
Municipality of the Village of Hudson	Hudson	Purchased		3	60	2,200	550/220	110	8	250
Corporation of the Village of Iroquois	Iroquois	Water		3-1	60	2,200	110/550	110		
Beach Rural Electric System	Iroquois	Water		3-1	60	2,200	2,200/220	110	2	64
Western Quebec Power Company, Ltd	Isle Cadieux	Hydro		3	60	2,200	550	110		50
The Lachute Electric Light System	Lachute	Water		3	60	2,200	550	110	3	850
Public Utilities Commission	Lanark	Hydro		1	60	2,200	110	110	2	106
Public Utilities Commission	Lancaster	Hydro		1-3	60	2,300		110	1	82
K. Marston	L'Orignal	Hydro		3	60	2,080	550	110		32
Police Trustees of Village of Martintown	Martintown	Hydro		1	60	2,200		110		35
The Maniwaki Electric Co., Ltd	Maniwaki	Water		1-3	60	2,200	550	110	5	2
Maxville Hydro	Maxville	Hydro		3	60	2,200	550	110	3	138
Morrisburg Electric Lt. & Pr. Co	Morrisburg	Hydro		3	60	2,200	220	110	20	20
The Argenteuil Lumber Co., Ltd	Morin Heights	Water		1	60	1,100		110		36
Laurentian Water & Power Co	Mont-Laurier	Hydro		1-2-3	60	2,200	220/440/550	110		87
Nepean Rural Power District	Nepean Twp	Hydro		3-1	60	4,000	220	110/220	1	102
The Ottawa Electric Company	Ottawa	Water & Steam		2-1	60	2,300	220/440/550	107	451	21,604
Ottawa Hydro Electric Commission	Ottawa	Water		1-2-3	60	11,000	440/550	110	198	11,953
Ottawa & Hull Pr & Mf'g Co., Ltd	Ottawa	Water		2-3	60	2,200/11,000			2	
Papineauville Electric Co., Ltd	Papineauville	Water		1-3	60	2,300	110/220/550	110	3	146
W. H. Edwards	Pakenham	Water		1	133	1,000		110		
The Pembroke Electric Light Co., Ltd	Pembroke	Water		3	60	2,500	2,200	110	12	1,422
Perth Hydro Electric System	Perth	Hydro		1-3	60	4,400	550/220	110	18	825
Western Quebec Power Co., Ltd	Pointe Fortune	Hydro		3	60	2,200	550	110		47

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Ottawa—Concluded.										
National Hydro Electric Co., Ltd	Pointe Fortune	Water		3	60	2,200		110		
Corporation of Pointe Gatineau	Pointe Gatineau	Purchased		1	60		2,200	104		14
The Town of Renfrew	Renfrew	Water		1-2	60	2,200	220/440/550	110/220	1	1,017
Calabogie Light & Power Company	Renfrew	Water		1-3	60	6,600	550	110		86
Western Quebec Power Co., Ltd	Rigaud	Hydro		3	60	2,200	550	110	2	185
La Compagnie Electrique de Rockland	Rockland			3	60	6,600				
Corporation of Rockland	Rockland	Water		3	60	6,600	440/220	110/220		117
Shawville Light Plant	Shawville	Gas		D. C.		70		60		36
Smiths Falls Hydro Electric System	Smiths Falls	Hydro		3-1	60		550/220	110	38	1,545
Western Quebec Power Co., Ltd	St. Andrews East	Hydro		3	60	2,200	550	110		110
Western Quebec Power Co., Ltd	Ste Scholastique	Hydro		3	60	2,200	550	110		225
Western Quebec Power Co., Ltd	St. Eugene	Hydro		3	60	2,200	550	110		70
Corporation of Thurso	Thurso	Purchased		3	60	6,600		110/220		50
The Vankleek Hill Electric Co., Ltd	Vankleek Hill	Purchased		1-3	60	10,000	2,200/550	115		200
Western Quebec Power Co., Ltd	Vaudreuil Station	Hydro		3	60	2,200	550	110		185
Western Quebec Power Co., Ltd	Vaudreuil Village	Hydro		3	60	2,200	550	110		100
Williamsburg Hydro Electric System	Williamsburg	Hydro		1	60		220	110	1	50
Chesterville Rural District	Winchester	Hydro		1	60		220	110		8
Winchester Hydro Electric System	Winchester	Hydro		1-3	60		220	110	2	283
Belleville—										
Bancroft Light & Power Co	Bancroft	Water				125				
Township of Mara	Beaverton	Hydro		1-3	60		220	110	1	2
Beaverton Hydro Commission	Beaverton	Hydro		1-3	60		220	110	12	340
Township of Thora	Beaverton	Hydro		1-3	60		220	110		5
Hydro Electric Pr. Com. of Ontario	Belleville	Water		1-3	60	44,000	550/250/110	110/220	75	3,003
The Public Utilities Commission	Bloomfield	Hydro		1-3	60	2,400	110/220	110	4	113
Electric Light Commission	Bobcaygeon	Water		3	60	2,300	110	110		
Hydro Elec. Pr. Com. of Ontario	Bowmanville	Hydro		1-3	60	44,000	550/440/220	220/110	30	880
Hydro Elec. Pr. Com. of Ontario	Brighton	Hydro		1-3	60	44,000	220/550	110	13	457
Public Utilities of Brockville	Brockville	Hydro		1-3	60		550/220	110	62	2,206
Hydro Electric Power Com. of Ont	Brooklin Rural	Hydro		1-3		4,200	550	110/220	30	174
Village of Buckin	Buckin	Hydro		1-3	60		220	110	2	41

Campbellford Water & Light Com...	Campbellford	Water		1-3	60	2,400	40,000/2,400/550/220	110/220	13	852
Brook Township Rural System	Cannington	Hydro		1-3	60	4,000	220	110/220	18	22
Cannington Hydro Electric Com	Cannington	Hydro		1-3	60	22,000	220	110/220	11	253
Cardinal Electric Light Co	Cardinal	Steam		3	60	240	220	110		52
Hydro Electric Power Com. of Ont..	Cobourg	Hydro		1-3	60		220/440 550/220	110/220	47	1,171
G. M. Peebles Estate	Colborne	Hydro		1	60	110	220	110	5	280
James Huffman	Delta	Purchased		1-3	60	2,200		110		43
Hydro Electric Pr. Com. of Ontario..	Deseronto	Hydro		1-3	60	2,300	550/220	115	10	345
Board of Water Light & Pr. Com	Fenelon Falls	Water		3	60	550	550	110		
Frankford Electric Light Company...	Frankford	Water		3	60	2,200	2,200/220	2,200/110	4	160
The Gananoque Elec. Lt. & Water Supply Co., Ltd	Gananoque	Water & steam		3	60	2,400/250	500	115	35	620
The Hamlet of Greenbank	Greenbank	Hydro		1-3	60	4,000		110/220		11
Fowlds Co., Limited	Hastings	Water		2	60	2,200	220	110		30
Havelock Hydro Electric System	Havelock	Hydro		3	60	44,000	220	110/220	1	325
Kemptville Hydro Electric Com	Kemptville	Water		3	60	2,200	220	110/220	5	280
Public Utilities Commission	Kingston	Steam		1-3	60	2,300	550	110/220	134	4,379
Lakefield Hydro Electric Commission	Lakefield	Hydro		1-3	60	6,600	220/550	110/220	3	250
The Hydro Elec. Power Com	Lindsay	Water		1-3	60	550	550/220	110	58	20,21
Police Village of Little Britain	Little Britain	Steam		D. C.		110	110	110		
The Hamlet of Lorneville	Lorneville	Hydro		1-3	60	4,000	220	110/220	1	11
George E. Roddick	Lyndhurst	Water		1-3	60	2,200		110		80
Corporation of Village of Madoc	Madoc	Hydro		3	60		220	220	4	2
Marmora Hydro Elec. Power Com...	Marmora	Hydro		1	60		220	110	3	152
The Rideau Power Co., Ltd	Merrickville	Water		1-3	60	600	550	110		150
Hydro Elec. Power Com. of Ontario..	Millbrook	Hydro		1-3	60		110/220	110/220	2	173
Hydro Elec. Power Com. of Ontario..	Napanee	Hydro		1-3	60	4,160/2,300	550/220	115	17	768
Norwood Hydro System	Norwood	Hydro		3	60	44,000	220	110/220	3	242
The Hydro Elec. Pr. Com. of Ontario	Newburgh	Hydro		1-3	60	4,160/2,300	550/220	115	1	114
Hydro Elec. Pr. Com. of Ontario	Newcastle	Hydro		1-3	60	44,000	220/110	220/110	3	165
Hydro Elec. Pr. Com. of Ontario	Omemee	Hydro		1-3	60	2,200	220	110/220	6	130
Hydro Elec. Pr. Com. of Ontario	Orono	Hydro		1	60	2,200	220/110	220/110	5	155
Hydro Elec. Pr. Com. of Ontario	Oshawa	Hydro		1-3	60	4,200	550	110/220	90	3,247
The Peterborough Utilities Com	Peterborough	Hydro		3	60		2200/500/220	110/220		5,719
Picton Public Utilities	Picton	Hydro		1-3	60		110/220	110	35	932
Princeton Hydro Commission	Princeton	Hydro								90
Hydro Electric Power Commission...	Port Hope	Hydro		1-3	60		110/220 550/2,200	110/220	38	1,211
Water & Light Commission	Prescott	Hydro		1-3	60	2,200	220/550	110	18	608
Corporation of Village of Stirling..	Stirling	Hydro		1-3	60	44,000	115/230	115	4	16
Sunderland Hydro Elec. System	Sunderland	Hydro		1-3	60	4,000	220	110/220	2	120
Frank Anglin	Sydenham			3	60	2,300		110		90
A-B. Carscallen, Limited	Tamworth			2		125		125		
Hydro Elec. Pr. Com. (Kingston Rural)	Toronto	Hydro		1-3	60		110/220	110		36
Hydro Elec. Power Com. of Ontario..	Trenton	Water		1-3	60	6,600	220/550/2,200	100	90	1,348

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Ottawa—Concluded.										
Hydro Elec. Power Com. of Ontario	Tweed	Hydro		1-3	60	2,200/4,160	550/220	110	14	320
Uxbridge Utilities Commission	Uxbridge	Hydro		1-3	60		110/220	110	8	217
Public Utilities Commission	Wellington	Hydro		1-3	60	2,220	110/220	110	5	240
The Public Utility Commission	Whitley	Hydro		1-3	60	4,000/2,200	550/220	220/110	14	745
Woodville Hydro Electric System	Woodville	Hydro		1-3	60	4,000	220	110/220	3	86
Toronto—										
Public Utility Commission	Alliston	Hydro	300	3	60	2,200	220/550	110	11	359
The Cataract Electric Company, Ltd.	Alton	Purchased		3	60	220	110			59
Hydro Electric Power Commission	Arthur	Hydro		3	60		220	110	5	160
The Town of Aurora	Aurora	Hydro		3 & 1	25		550	110/220	11	593
D. C. Carruthers	Avening	Water		D.C.		110	110	110	1	1
James Booth	Ayton	Water		1	25	125		125		2
Bala Electric Lt. Ht. & Pr. Co., Ltd.	Bala	Water		3	60	2,200	110/220/550	110		1
Barrie Electric Light Dept.	Barrie	Hydro		2 & 1	60	2,200	2,200|220|110	110	29	1,880
Corporation of Village of Beeton	Beeton	Hydro		3 & 1	60		550	110/220	3	118
Bolton Hydro Electric System	Bolton	Hydro		3	25		110/550	110		
Corporation of Bracebridge	Bracebridge	Water		2	60	2,200	110/2,200	110		397
Hydro Commission	Bradford	Hydro			60		550	110/220	2	182
The Knight Bros. Company, Ltd	Burks Falls	Water		3 & 1	60	2,300		110		37
Hydro Electric Commission	Brampton	Hydro		3 & 1	25	13,000	550/220	110	40	1,160
The Cataract Electric Company, Ltd.	Cataract	Water		3 & 1	60	2,200	110	110		
G. W. Collins	Chatsworth	Purchased		3 & 1	60	22,000	220	110	1	76
Newell Clendenan	Clarksburg	Purchased		3 & 1	60	2,300	2,200	110/220		55
Corporation of Coldwater	Coldwater	Hydro		3 & 1	60	2,200	550	110	6	130
Public Utilities Commission	Collingwood	Hydro		3 & 1	60		2200/550/220	220/110	58	1,436
Cookstown Hydro Electric System	Cookstown	Hydro			60		220	110	1	105
John M. Hood	Creemore	Hydro			60		220	110	7	185
Village of Drayton	Drayton	Hydro		3 & 1	25		600	110	3	149
Dundalk Hydro Commission	Dundalk	Hydro		3	60	4,400	2,200	110/220	4	190
Hydro Electric Commission	Durham	Hydro		3	60	22,000	220/550	110	5	361
The Village of Elmvale	Elmvale	Hydro		3	60	2,200	220	110	158	7
Hydro Electric Commission	Elora	Hydro		3 & 1	25	13,200/4,000	550	110	3	321
The Cataract Electric Company, Ltd	Erin	Purchased		1	60		220	110	1	94

Hydro Electric Power Commission	Etobicoke Twp	Hydro		3 & 2	25	4,000	550	110/220	16	2,500
Hydro Electric Commission	Fergus	Hydro		3 & 1	25	13,200	2,250/550	110	19	446
Hydro Electric Commission	Flesherton Rural District	Hydro		1	60		220	110		26
Hydro Electric Commission	Grand Valley	Hydro		3 & 1	60	22,000	220/550	110	2	156
Electric Light & Water Commission	Gravenhurst	Water		1-3	60	6,600	2200/550/220	110	12	468
Board of Light & Heat Commissioners	Guelph	Purchased		1-3	25-60	2,200	550	110/220	105	4,234
Hydro Commission of Hanover	Hanover	Hydro		1-3	60	4,000/2,200	2,200/110	220/110	15	700
Hydro Electric Commission	Harriston	Hydro		1-3	25	4,400	550	110	9	311
Corporation of Holstein	Holstein	Hydro		1-3	60	22,000	220	110	1	49
Hydro Electric Commission	Hornings Mills			1	60		220	110	1	24
Public Utilities Commission	Huntsville	Water		3	60	6,600	110/550	110	5	445
Thos. McDonald	MacLier	Delco		1		110		110		20
Corporation of Markdale	Markdale	Hydro		1-3	60		4,000	110/220	7	225
Hydro Electric Power System	Markham	Hydro		1-3	25	2,200	550	110	6	237
Markham Rural Power District	Markham Twp	Hydro		1	25			110/220	6	110
E. R. C. Clarkson	Meaford	Water		1-3	60	2,300	2,300/110	110	4	354
The Midland Water & Light Com	Midland	Purchased		1-3	60	2,200	220	110	53	1,325
Public Utility Commission	Mimico	Hydro		1-3	25	4,400	550	110/220	9	1,121
Hydro Electric Power Com	Moorefield	Hydro		1-3	25		550	110	2	46
Albert Dike	Mount Albert	Gas				230	230	230		
Water & Light Commission	Mount Forest	Purchased		1-3	60	22,000	2,200/220	2,200/110	16	380
Hydro Electric Commission	Neustadt	Hydro		1-3	60		4,000	110/220	3	93
The Town of Newmarket	Newmarket	Hydro		3	25	2,200	550	110/220	11	871
Public Utilities Commission	New Toronto	Hydro				13,200	550/2,200	110/220	17	850
Rural Power District	Nottawasaga	Hydro		1	60		220	110		60
Water, Lght & Power Commission	Orillia	Water		1-2-3	60	2,200	220/2,200	110	12	405
Hydro Electric Power Commission	Orangeville	Hydro		1-3	60	22,000	220/550	110/220	10	356
The Cataract Electric Co., Ltd	Orangeville	Purchased		1-3	60		220	110	2	153
Public Utilities Commission	Owen Sound	Water		3	60	4,400	2,200/550	110/220	115	2,745
The Public Utilities Commission	Parry Sound	Water		1-3	60	2,200	2,200/110	110/220	17	527
Water & Light Commission	Penetanguishene	Water		3	60		110/2,200	110/220	31	500
G. W. Gordon	Port Credit	Water		1-3	60	2,200	220/550	110	5	298
Hydro Electric Commission	Port McNicoll	Hydro		3	60	2,200/110	220	110	1	132
Police, Village of Priceville	Priceville	Hydro		3	60	22,000	2,300	115		22
Village of Richmond Hill	Richmond Hill	Purchased		1-3	25		550	110/220	11	298
Rockwood Hydro Electric	Rockwood	Hydro		1-3	25	13,000	550	110/220	4	136
Shelburne Hydro Commission	Shelburne	Hydro		1-3	60		220	110	8	292
South River Electric Company	South River			1-3	60	4,000	550	110		
Stayner Hydro Electric Com	Stayner	Hydro		1	60	4,400	220	220/110	7	232
Stouffville Corporation	Stouffville	Gas		1	60	2,200		110		225
Village of Streetsville	Streetsville	Gas		3	60		110	110	1	130
Streetsville Rural Power District	Streetsville	Hydro		1	25			110/220		2
A. J. Loweck & Son	Sutton West	Water		D.C.		220		220		
Public Utilities Commission	Thornbury	Water		1-3	60	2,200	220	110		178
Police Village of Thornton	Thornton	Hydro		1	60		220	110		45
Monarch Supply Co., Ltd	Toronto	Steam		D.C.		250	250	110/220	10	53
Toronto Hydro Electric System	Toronto	Hydro		1-3	25	13,200	13,200/550 250/500	115/230	2,953	90,112

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Toronto—Concluded.										
Toronto & Niagara Power Co	Toronto	Hydro		3	25	12,500	12,000/550 120/240	115/230 120/240	1,467	29,327
Toronto Power Company, Ltd	Toronto	Hydro		3	25	12,000	12,000		11	
Childs Company, Kent Bldg	Toronto	Hydro		3	25		220	110		61
Toronto & York Radial Ry	Toronto	Hydro		1-3	25		550	110/220	17	760
Toronto Twp. Hydro Service	Toronto Twp	Hydro		1-3	25	13,200	220/550	110	12	783
The Corporation of Tottenham	Tottenham	Hydro		1	60		110/220	110	3	148
Corporation of Town of Trout Creek	Trout Creek	Delco		D.C.		120		120		35
Vaughan Hydro System	Vaughan Twp	Hydro		3	25	13,200/4,000	550	110/220	7	79
Township of Tay	Victoria Harbor	Hydro				2,200	2,200	110	4	92
Village of Victoria Harbour	Victoria Harbor	Hydro		1	60	22,000		110		158
Water Power, & Light Commission	Weston	Hydro		1-3	25	13,200	550	220/110	17	1,250
Hydro Electric Commission	Woodbridge	Hydro		3	25	13,200/4,000	550	110/220	6	185
The Woodbridge Rural Power Dpt.	WoodbridgeDist	Hydro		1-3	25		550	110/220	1	14
Hamilton—										
Acton Hydro Commission	Acton	Hydro		1-3	25	2,200	2200/550/220	110/220	16	415
Public Utilities Com. of Ancaster Twp.	Ancaster	Hydro			25	2,200	110/220	110/220	4	513
Ayr Hydro Electric System	Ayr	Hydro		1-3	25		550/220	110	4	165
The Police Village of Baden	Baden	Hydro		1-3	25	13,000	550	110	5	110
Hamilton Cataract Pr. Lt. & Traction Co., Ltd	Beamsville	Water		1-3	66⅔	2,400	220	110	10	412
Beamsville Rural Power District	Beamsville	Water		1-3	25	12,000	550/220	110	2	161
Brantford Hydro Electric System	Brantford	Hydro		1-3	25		40,000 550/220	220/1	10	5,852
Twp Brantford Hydro Electric System	Brantford	Hydro		1-3	25	2,300	550	220/110	5	551
Western Counties Electric Co., Ltd	Brantford	Water		1-3	66⅔	2,400	220	110	140	1,837
Bromte Electric Light Commission	Bromte	Purchased		3	66⅔	2,200	220	110	1	196
Burford Hydro Electric Power Com	Burford	Hydro		2-3	25	22,000	550/220	110	5	181
Hamilton Cataract Pr. Lt. & Traction Co., Ltd	Burington	Water		1-2-3	66⅔	2,400	220	110	18	1,701
Caledonia Hydro System	Caledonia	Hydro		3	25		550/220/110	110	7	151
Chippawa Hydro Electric System	Chippawa	Hydro		3	25		220	110	3	198
The Delhi Light & Power Co., Ltd	Delhi	Water		1-3	60	2,300	220/2200	110	12	152

Public Utilities Commission	Dundas	Water		1–3	25	12,000	550/220	110/220	55	1,175
The Dundas Electric Company Ltd.	Dundas	Water		1–3	66⅔	2,400	220	110	5	118
Dunnville Hydro Electric System	Dunnville	Hydro		1–3	25	46,000/2,200	550	110/220	18	447
Elmira Public Utilities Commission	Elmira	Hydro		1–3	25	2,200	550	110/220	21	481
Public Utilities Com. of Galt	Galt			1–3	25		13,200	110/220	109	3,411
Hydro Electric Department	Georgetown	Hydro			25	4,000	220/550	110/220	31	650
Hamilton Cataract Pr. Lt. & Traction Co., Ltd	Grimsby	Water		1–3	66⅔	2,400	220	110	27	731
Hagersville Hydro Electric System	Hagersville	Hydro			25	1,200	2,200	110	12	291
Hamilton Cataract Pr. Lt. & Traction Co., Ltd	Hamilton	Water		1–2–3	66⅔	2,400	220	110	377	w 60
Hamilton Elec. Lt. & Pr. Co., Ltd	Hamilton	Water		1–3	66⅔	2,400		110		5,906
The Hydro Electric Com. of City of Hamilton	Hamilton			3	25		220/550/2200	110/220	720	24,830
Lynden Rural Hydro Dist (Beverley Twp.)	Hamilton	Hydro		1–3	25	4,000	550	110/220		35
Dundas Rural Hydro Dist (Flamboro Twp.)	Hamilton	Hydro		1–3	25	4,000	550	110/220	1	23
Saltfleet Rural Power Dist. (Saltfleet Twp.)	Hamilton	Hydro		1–3	25	4,000	550	110/220	2	624
Hydro Electric Commission	Hespeler	Hydro		1–3	25		550	110/220	18	652
The Kitchener Light Commissioners	Kitchener	Purchased		1–3	25	13,200	550	110/220	217	5,032
Lynden Hydro Electric System	Lynden	Water			25	13,200	220	110	1	83
Public Utilities Commission	Merritton	Hydro		1–3	25	12,000	550	220/110	3	697
Hydro Electric Commission	Milton	Hydro		3	25		13,000	110	15	345
New Hamburg Hydro Elec. Dept	New Hamburg	Hydro		1–3	25	13,000	220/550		13	260
Hydro Elec. Com. of Niagara Falls	Niagara Falls	Hydro		1–3	25		2,200/220	110/220	83	3,565
Niagara Hydro Electric Com	Niagara	Hydro		3	25	2,200	2,200/220	110/220	7	396
Canadian Niagara Power Company	Niagara Falls	Water		1–3	25	11,000	220/2,220 4,400/11,000 22,000	110	61	1,400
Oakville Water & Light Commission	Oakville	Purchased		1–3	60		2,220	110/220	25	1,202
The Paris Hydro Elec. & Water Commission	Paris	Hydro		3	25	2,200	550	110/220	19	1,058
Port Colborne Hydro Electric System	Port Colborne	Hydro		1–3	25		220	110	14	780
Port Dalhousie Public Utilities Com.	Port Dalhousie	Purchased		1	25		220	110	8	502
Port Dover Hydro Electric System	Port Dover	Purchased			25	110/220	220	110/220	3	210
Preston Light & Water Commission	Preston	Purchased		1–3	25	13,200	550	110/220	55	1,383
Simcoe Hydro Electric System	Simcoe	Hydro		1–3	25	26,000	110/220/550	110/220	24	448
Val B. Bizley	Smithville	Purchased		3	60	2,200	220/550	110	7	173
Stamford Hydro Elec. System	Stamford	Hydro			25		440/220	110/220	7	784
Louth Twp Hydro Electric System	St. Catharines	Purchased		1	25		220	110		56
Lincoln Elec. Lt. & Co., Ltd	St. Catharines	Purchased		1–3	66⅔		220	110	85	1,125
Public Utilities Com. of City of St. Catharines	St. Catharines	Purchased		1–3	25		550/220	110	99	4,783
Grantham Twp. Hydro Elec. System	St. Catharines	Purchased		1	25		220	110	3	254
A. E. Green & B. B. Patten	St. George	Hydro		1–3	25		550	110	4	122
Thorold Public Utilities	Thorold	Water		1–3	25	2,300	110/550	110/220	4	1,162

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Hamilton—Concluded.										
Waterdown Rural Power District	Toronto	Hydro		1	25	2,200	220/110	110/220		26
Waterdown Hydro Electric System	Waterdown				25	110/220	100/220	110	3	200
Waterford Hydro Elec. Commission	Waterford	Purchased		3	25	4,400	550	110	11	284
Waterloo Water & Light Commission	Waterloo	Hydro		1-3	25		550/220	110/220	53	1,375
Welland Hydro Electric System	Welland	Water		1-3	25		2200/550/220	110/220	51	1,538
Welland Electrical Co., Limited	Welland	Purchased		1-3	66⅔		220	110	20	1,700
The Wellesley Light & Power Com. of Ontario	Wellesley	Purchased		1-3	25		550	110	5	124
The Ontario Power Company	Niagara Falls	Water		3	25	12,000	12,000/3000 /60,000			21 1
London—										
Hydro Electric Commission	Ailsa Craig	Hydro		1-3	25	4,000	550	110/200	3	134
Alvinston Hydro Electric System	Alvinston	Hydro		1-3	25	4,000	550	110	6	167
Hydro Electric Commission	Amherstburg	Hydro		1-3	25		220/550	110/220	20	630
Rock Glen Power Company Ltd	Arkona	Water		3	60	2,200	2,200/220	110	2	94
Aylmer Public Utilities Com	Aylmer	Hydro			25		220	110	9	583
The Blenheim Hydro Electric System	Blenheim	Hydro		1	25	110	110/220	110	11	504
Municipality of Blyth	Blyth	Steam			125	1,100		110		75
Bothwell Hydro Electric System	Bothwell	Hydro		1-3	25	2,200	500/220	110	6	191
Beachville Hydro Electric System	Beachville	Hydro		1-3	25	2,200	550	110	3	100
Brigden Hydro Electric System	Brigden	Hydro		1-3	25		550	110	4	116
Robert Thuell	Brussels			2	60	220		220		160
Burgessville Hydro Electric System	Burgessville	Hydro		1-3	25		550	110/220	1	60
Dashwood Hydro Electric System	Dashwood	Hydro		1-3	25	4,400	110/220	110/220	1	71
J. L. Pincombe	Delaware	Hydro		3	25		13,200	110		53
Police Village of Dorchester	Dorchester	Hydro		1-3	25		1,100/2,200	110/220	4	130
Dresden Hydro Electric System	Dresden	Hydro		1-2-3	25		220/550	110	12	390
Village of Drumbo	Drumbo	Hydro		1-3	25		220	110	1	90
Police Village of Dublin	Dublin	Hydro		1-3			550	110	2	43
Dutton Hydro System	Dutton	Hydro		1-3	25	2,300	550	110	4	245
Hydro Electric Power Commission	Canard	Hydro		1	25		220	110		10
Cargill Limited	Cargill	Water				240	240	110		
Chatham Public Utilities Com.	Chatham	Hydro		1-2-3	25		550	110	4,285	131

The Corporation of Town of Chesley	Chesley	Hydro		2-3	60	22,000	220/550	110	17	376
Clinton Public Utilities Commission	Clinton	Hydro		1-3	25		550	110	11	519
Comber Hydro Commission	Comber	Hydro			25	550	550	110	2	120
Hydro Electric Power Commission	Cottam	Hydro		1	25		220	220/110	2	71
Elmwood Electric Light System	Elmwood	Hydro			60			110	1	50
Embro Hydro Electric System	Embro	Hydro		3	25	13,000	550	110	6	110
Hydro Electric Power Commission	Essex	Hydro		1-3	25		220/550	220/110	7	360
Exeter Public Utilities Commission	Exeter	Substation		3	25	4,400	110/220/550	110/220	6	407
Public Utilities Commission	Forest	Hydro		1-3	25	26,400	550	220/110	18	440
Formosa Electric Light Co., Ltd	Formosa	Purchased		2-3	60	2,200	220	110		34
A. S. Randall	Florence	Oil		1	60	110		110		
Glencoe Hydro Electric Power Com.	Glencoe	Hydro		1-3	25	4,400	110/220/550	110	4	232
The Water & Light Commission	Goderich	Hydro		1-3	25		550	110/220	14	1,103
Granton Hydro Electric Pr. Com	Granton	Hydro		1-3	25		550	110/220	2	90
Hydro Electric Power Com	Harrow	Hydro		1-3	25		220	110/220	9	76
Hensall Hydro Electric System	Hensall	Hydro		1-3	25	4,000	550	110	7	177
Highgate Hydro Electric System	Highgate	Hydro		1	25		110/220	110	5	100
The Public Utilities Commission	Ingersoll	Hydro		1-3	25	13,200/2,200	2200/550/220	110/220	52	1,322
Dawson & Chapman	Inwood	Gasolene				110		110		14
Hydro Electric Power Com	Kingsville	Hydro		1-3	25		220/550	220/110	12	556
Kicardine Waterworks & Elec. Lt. Com	Kincardine	Hydro		1-3	60	2,200	550/220	220/110	13	557
Police Village of Lambert	Lambert	Hydro			25	4,000	550	110/220	1	115
Hydro Electric Power Com'	Leamington	Hydro		1-3	25		220/550	220/110	23	1,036
Listowel Public Utilities Commission	Listowel	Hydro		1-3	25	4,400	550	110/220	19	636
Public Utilities Commission	London	Hydro		1-3	25	13,000/2,200	2300/550/220	110	568	16,100
Greene Swift Limited	London	Steam & Hydro				125/500	500	110	1	8
Helena Costume Company	London	Steam		D. C.		220/110	220	110		6
The Lucan Hydro Commission	Lucan	Hydro		1-3	25		550	110	9	188
The Lucknow Hydro System	Lucknow	Hydro		1	60		550	110	1	205
The Mt. Brydges Hydro Elec. Power Commission	Mount Brydges	Hydro					550	110	1	115
The Public Utilities Com	Mitchell	Hydro		1-3	25		550	110	16	450
Hugh D. McNaughton	Newbury	Hydro		1-3	25	4,000	220/110	110	1	60
Norwich Electrical Dept	Norwich	Hydro		1-3	25		2,200/550/220/110	110	8	420
Oil Springs Hydro Electric System	Oil Springs	Hydro			25	4,000	550/220	110/220	35	70w
Otterville Hydro Electric System	Otterville				25				4	120
Paisley Electric Light Co	Paisley	Water		2	133	2,200	110	110		27
Parkhill Hydro Electric System	Parkhill				25				4	214
Hydro Electric Commission	Palmerston	Hydro		1-3	25		550	110	7	378
Petrolia Hydro Electric Commission	Petrolia	Hydro		1-3	25		550/220/110	220/110	67	723
Plattsville Hydro System	Plattsville	Hydro			25		550	110	2	101
Port Stanely Hydro Electric Dept	Port Stanley	Hydro		1-3			2,200/220	110	6	246
Public Utilities Commission	Ridgetown	Hydro		1-3	25	26,000	550	110/220	11	523
The Ripley Hydro Electric System	Ripley	Hydro		1-3	60	4,400	550	110/220	1	109
Local Hydro System	Rodney	Hydro		1-3	25	2,300	550	110/220	3	191
Sarnia Hydro Electric System	Sarnia	Hydro		1-3	25		350/440/220/110	110/220	86	4,493

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
London—Concluded.										
Public Utilities Commission	Seaforth	Hydro		1-3	25		110/220/550/2,200	110	15	592
The Saugeen Elec. Lt. & Pr. Co., Ltd	Southampton	Water		1-3	60	6,600	550/440/220	110	14	568
Village of Springfield	Springfield	Hydro			25		550	110	2	90
Public Utility Commission	Stratford	Hydro			25	2,200	220/550	110	150	4,200
Public Utilities Commission	Strathroy	Hydro		1-3	25	13,200	550	110	23	781
Water, Light & Heat Commission	St. Marys	Hydro		1-3	25	13,200/2,200	550/220	220,110	42	1,071
Hydro Electric Commission	St. Thomas	Hydro		1-3	25	13,200	550	110	116	4,318
The Tara Hydro Electric Com	Tara	Hydro		3	60		2,200	115	4	132
Tavistock Public Utilities Commisssion	Tavistock	Hydro		1-3	25	26,400	550	110/220	4	265
Teeswater Hydro Commission	Teeswater	Hydro		1	60	2,200	550/220	110/220	1	180
Thamesford Hydro Electric System	Thamesford	Hydro		1-3	25	4,400	220/550	110	6	114
Public Utilities Commission	Thamesville	Hydro		3	25	2,300	550	110	5	270
Local Hydro Electric Commission	Thedford	Hydro		1-3	25	4,400	550	110/220	2	133
Thorndale Hydro	Thorndale	Hydro		3	25	4,000	220	110/220	1	66
Tilbury Hydro Power Commission	Tilbury	Hydro		1-2-3	25		220/550	110/220	9	285
Tilsonburg Hydro Electric Co	Tillsonburg	Hydro		1-3	25	13,000	550	110/220	21	765
Walkerton Quarry Rural Power District	Toronto	Hydro		1	60	2,200	220	110		4
Dereham Hydro Electric System	Toronto	Hydro		1-3	25		220	110	45	132
Hydro Electric Power Com. of Ontario (Essex County)	Toronto	Hydro		1-3	25		220	220/110	2	261
Ripley Rural Power District	Toronto	Hydro		1-3	60	4,000	220	110		1
Wallaceburg Hydro Electric System	Wallaceburg	Hydro		1-3	25	26,400	550/220	220/110	30	943
The Walkerton Electric Lt. Ht. & Pr. Co., Ltd	Walkerton	Water		1-3	60	2,300	220/550	110	13	400
Walkerville Hydro Electric System	Walkerville	Hydro		1-3	25	26,4004,000/550/220		110/220	105	3,530
Watford Hydro Electric System	Watford	Hydro		1-3	25	4,000	550/220	220/110	9	275
The West Lorne Hydro Electric Dept	West Lorne	Hydro		3	25	13,200	550	110	3	177
Marven White	Wheatley	Gas		1-2	60	220		110		
Sauble Falls Light & Power Co	Wiarton	Water		1-3	60	6,600	220/550/1100	110	8	252

Wingham Utilities Commission	Wingham	Water		1-3	60		550	110/220	27	533
Hydro Electric Power Com	Windsor	Hydro		1-3	25		220/550	110/220	323	12,055
Woodstock Public Utilities Comm	Woodstock	Hydro		1-3	25		550/220	110	52	2,640
Wyoming Hydro System	Wyoming	Hydro		1	25		220/550	110	3	138
Yurich Hydro Electric System	Yurich	Hydro		1-3	25	4,400	110/220	110/220	3	107
Mildmay Electric Light Co., Ltd	Mildmay	Purchased			60				1	118
Milverton Hydro Commission	Milverton	Hydro		1-3	25		550	110	5	240
Sudbury—										
Fred Deagle	Blind River	Water		1-3	60	2,400	110/220	110		
F. W. McKee	Cache Bay			2	60	2,200	220	11	1	90
Hydro Electric Power Com. of Ontario	Callander	Water		3	60	2,200	220/550	110/220	3	134
Chapleau Electric Lt. & Pr. Co	Chapleau	Steam		3	60	2,300	2,300/550	110	2	418
Northern Ontario Light & Power Co., Ltd	Cobalt	Water		1-3	60	11,000/2,400	110/220	110	40	1,375
The Huronian Company, Ltd	Copper Cliff	Water		1-3	25/60	2,400 2,200/500	33,000	110	14	
The Lorne Power Company, Ltd	Coniston	Water		3	60	2,200	44,000			
Northern Ontario Lt. & Pr. Co., Ltd	Englehart	Water		1-3	60	2,300	110/220/550	110	10	205
Elk Lake Power Company	Elk Lake	Water		1-3	60	550	110/550	110	4	24
Spanish River Pulp & Paper Mills	Espanola	Water		1-3	60	2,200	2,200/550	110/220		184
George Ritchings	Gore Bay					110		110		6
Northern Ontario Lt. & Pr. Co., Ltd	Haileybury	Water		1-3	60	11,000/2,400	220/110	110	10	347
Abitibi Power & Paper Co., Ltd	Iroquois Falls			1-3	60	13,200	600	115/120		175
Northern Ontario Lt. & Pr. Co., Ltd	Kirkland Lake	Water		1-3	60	44,000/2,400	110/220	110	10	180
The Town of Little Current	Little Current	Steam		3	60	2,300		110		150
The Mattawa Electric Lt. & Pr. Co., Ltd	Mattawa			1-3	60	2,200	220/110	110		7
Northern Ontario Lt. & Pr. Co., Ltd	New Liskeard	Water		1-3	60	11,000/2,400	220/110	110	40	650
Hydro Electric Power Com. of Ontario	Nipissing	Water		3	60	2,200	220/550	110/220		14
Hydro Electric Power Com. of Ontario	North Bay	Water		3	60	2,200	220/550	110/220	57	2,684
Hydro Electric Power Com. of Ontario	Powassan	Water		3	60	2,200	220/550	110/220	3	169
The Great Lakes Power Company, Ltd	Sault Ste. -Marie	Water		3	60/25	2,300	2,300	2,300	5	4
City of Sault Ste. Marie Water & Light Dept	Sault Ste. Marie	Purchased		1-3	60	2,200	220	110	130	5,700
Moose Mountains Inn	Sellwood	Purchased		1-3	60		550	110	11	22
Northern Ontario Lt. & Pr. Co., Ltd	South Porcupine	Water		1-3	25	12,000/2,400	110/220	110	20	301
Corporation of Town of Sturgeon Falls	Sturgeon Falls	Water		1-3	60	2,200	550	110/220	4	580
Corporation of Town of Sudbury	Sudbury	Purchased		2-3	60	2,300	220	110/220	34	2,504
The Wahnapitae Power Company, Ltd.	Sudbury	Water		2,3	60	2,300	15,000 22,500/33000	110		
Corporation of Town of Thessalon	Thessalon	Water		1-3	60	2,300	220	110		210
Northern Ontario Lt. & Pr. Co., Ltd	Timmins	Water		1-3	25	12,000/2,400	220	110	200	2,018
Northern Canada Power, Ltd	Timmins	Water			25	12,000	12,000		6	
La Compagnie d'Energie Electrique de Verner	Verner	Delco				120	120			18

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Fort William—										
Dryden Paper Co., Limited	Dryden	Water		1-3	60	550	550	110		
Town of Dryden Electrical Dept	Dryden	Purchased		3	60	600	550	110	32	263
Langstaff, Schurg & Co., Limited	Emo	Steam				120		110		38
Municipality of McIrvine	Fort Frances	Purchased		1-3	60	220		110/220		12
Ontario & Minnesota Power Co., Ltd	Fort Frances	Water		1-3	60	6,600	550	110/220	8	8
Corporation of Town of Fort Frances	Fort Frances	Water		2-3	60	6,600	220	110	24	870
Kaministiquia Power Company Ltd	Fort William	Water		3	60	3,600/4,400	22,000/600	210/220		
City of Fort William Electric Light Dept	Fort William	Purchased		1-3	60		550/220	112/224	59	5,287
Hydro Electric Power Commission of Ontario	Fort William	Water		3	60	12,000	110,000		2	
Keewatin Power Company, Ltd	Kenora	Water		1-3	60	2,300	220/550	110		
Corporation of Town of Kenora	Kenora	Purchased		1-3	60		2,200/110	220/110	32	1,444
The Public Utilities Commission	Port Arthur	Water		1-3	60	2,200	22,000/110	220/110	64	4,002
The Town of Rainy River	Rainy River	Steam		3	60	2,300	110			300
Canadian Pacific Railway Co	Schreiber	Steam		D. C.		250/125	250	250/125	2	
Canadian National Railways	Sioux Lookout	Steam		3	60	2,200	550	110		
Town of Sioux Lookout	Sioux Lookout	Steam		1-3	60	2,200	2,200	110	1	195
Winnipeg—										
Chas. Morrell	Arden	Gas		D. C.		110		110		
Suburban Rapid Transit Company	Assiniboia Municipality	Purchased							2	218
Town of Beausejour	Beausejour	Hydro		3-1	60	2,200	550	110	1	71
City of Winnipeg Hydro Electric System	Bird's Hill	Water		3-1	60	6,600	550	110/220	3	69
Boissevain Electric Light Plant	Boissevain	Steam		2	60	2,200		110		144
Victor A. Hinchcliffe	Bowsman River	Gas				115	115	115		4
Canada Gas & Electric Corporation	Brandon	Steam		3-1	60	2,300	2,300/220	220/110	108	3,033
City of Winnipeg Hydro Elec. System	Brooklands Municipality	Water		3-1	60	6,600	550/220	110/220	4	595
The Town of Carberry	Carberry	Steam		1-2	60	2,300		115		220
Suburban Rapid Transit Co	Charleswood Municipality	Purchased							1	82

The Town of Dauphin	Dauphin	Steam		2	60	2,200	220	110	42	918
A. H. Atkinsn	Deloraine	Gas						32		
Alex. Robitaille	Deloraine	Delco-Light		1	4	32	32	32		4
Hamblin Bros	Dominion City	Gas		D. C.		120		120		22
City of Winnipeg Hydro Electric System	East Kildonan Municipality	Water		3-1	60	6,600	550	110/220	3	224
Town of Emerson	Emerson	Purchased		3-1	60	2,200	2,200	110		93
City of Winnipeg Hydro Electric System	Fort Garry	Water		3	60	6,600		110/220		11
Electric Light & Power Dept	Gladstone	Steam		3	60	550	550	110		192
A. Coblentz & Son	Gretna	Purchased		1	60	2,200		110		39
L. Lawlor	Kenton	Oil		D. C.		125		11		5
Winnipeg Electric Railway Co	Kildonan Municipality	Purchased							12	2,424
Citizens Electric Company	Lenore	Oil		D. C.				115		
Town of Melita	Melita	Steam		D. C.				110/120		151
Town of Neepawa	Neepawa			3	60	2,300	230	115	33	400
Town of Rapid City	Rapid City	Gas		3		2,300		110		104
Municipality of Pipestone	Reston	Gas		D. C.		120		120		114
Canadian National Railways	Rivers	Steam		3	60	600	600	110	1	
Corporation of Town of Rivers	Rivers	Purchased			60	550	220	110	1	170
Winnipeg, Selkirk & Lake Winnipeg Ry. Co	Rockwood Municipality	Purchased							18	285
Electric Light Department	Russell	Gas		3	60	2,200		110		170
The Town of Selkirk	Selkirk			3	60	2,200	220	110	13	894
Town of Souris Electric Light Plant	Souris	Gas		D. C.		225	220	110	10	222
The Village of Shoal Lake	Shoal Lake	Oil		D. C.		250	220	110	2	120
City of Winnipeg Hydro Electric System	Stony Mountain	Water		3-1	60	6,600	550	110/220	4	24
Winnipeg, Selkirk & Lake Winnipeg Ry Co	St. Andrews Municipality	Purchased							8	93
Winnipeg Electric Railway Co	St. Boniface	Purchased							122	3,613
Suburban Rapid Transit Company	St. James Municipality	Purchased							15	3,228
Winnipeg, Selkirk & Lake Winnipeg Ry. Co	St. Paul Municipality	Purchased							9	91
B. T. Tucker	Ste. Rose	Gas			4	110	110	110		47
Winnipeg Electric Railway Company	St. Vital Municipality	Purchased							6	1,529
Corporation of Town of The Pas	The Pas	Oil		3-1	60	2,300	220	110	5	399
City of Winnipeg Hydro Electric System	Transcona	Water		3-1	60	6,600	550	110/220	16	1,231
Christian Wiechman	Treherne	Steam				220	220	220		47
City of Winnipeg Hydro Electric System	Tuxedo	Water		3-1	60	6,600	550/220	110/220	5	51

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Winnipeg—Concluded.										
Suburban Rapid Transit Company	Tuxedo Municipality	Purchased							2	14
City of Winnipeg Hydro Electric System	West Kildonan Municipality	Water		3-1	60	6,600	550	110/220	2	92
Union Traders Limited	Winkler	Oil		D. C.		110		110		87
Winnipeg Electric Railway Company	Winnipeg	Water & Steam		3-1	60	2,200/12,000	2,200/12,000 /22,000	110	821	8,944
City of Winnipeg Hydro Electric System	Winnipeg	Water		3-1	60	6,600	550/220	110/220	881	43,957
Winnipeg, Selkirk & Lake Winnipeg Ry. Co.	Winnipeg and Selkirk, rural district	Purchased		3-1	60	132,000	2,200/500	110/220	53	452
The Manitoba Power Commission	Carman			3-1	60		110/220/ 550/2,200	110	9	299
The Manitoba Power Commission	Elm Creek			3-1	60		110/220/ 550/2,200	110		62
The Manitoba Power Commission	Minnedosa	Oil		3-1	60	2,300	110/220/ 550/2,200	110	6	361
The Manitoba Power Commission	Morden			3-1	60		110/220/ 550/2,200	110	7	282
The Manitoba Power Commission	Oakville			3-1	60		110/220/ 550/2,200	110		61
The Manitoba Power Commission	Portage la Prairie									
The Manitoba Power Commission	Roland			3-1	60		110/220/ 550/2,200	110	5	118
The Manitoba Power Commission	Virden			3-1	60	2,300	110/220/ 550/2,200	110	8	326
The Manitoba Power Commission	Winnipeg	Power purchased and distributed wholesale.								
Regina—										
A. D. Mills	Abernethy	Oil		D. C.				110		27
Jacob Heinrichs	Aberdeen	Delco		D. C.		32	32	32		

Electric Light & Power Co., Ltd	Aneroid	Oil		D. C.		125		125		47
Arcola Light & Power Co	Arcola	Oil		1-3	60	2,200		110/220		120
The Town of Assiniboia	Assiniboia	Oil		1-3	60	2,300	220	110	1	237
Charles V. Moore	Avonlea	Delco		D. C.		110		110		4
The Balcarres Power & Light Co., Ltd.	Balcarres	Oil		D. C.		120	115	115		82
Rigby, Gadd & Co	Balgonie	Oil		D. C.		110	110	110		19
The Town of Battleford	Battleford	Purchased		3	60	2,300	220	115	10	225
W. J. Lay	Biggar	Gas		3	60	2,300	110/220	110	1	282
Corporation of Town of Broadview	Broadview	Gas and Oil		3	60	2,200		110		157
Electric Light & Power Company	Bruno	Oil		D. C.		115		115		34
The Town of Canora	Canora	Oil		1-3	60	2,200	220	110	1	175
The Town of Carlyle	Carlyle	Steam		3	60	2,300		110		84
W. E. Schwartz	Central Butte			D. C.		115		115		1
B. J. Allbright	Craik	Oil		3	60	2,300		115		35
F. S. Wilbur	Creelman	Gas		D. C.		120		120		
H. Brown	Cupar	Oil		D. C.		110		110		72
Town of Davidson	Davidson	Gas		3	60	2,200	220	110		137
Drake Light & Power Company	Drake	Delco		D. C.		110		110		12
J. F. Perret	Duck Lake	Oil		D. C.		110		110		16
Village of Earl Grey	Earl Grey	Gasoline		D. C.		115		115		34
Messrs Crawford & Jones	Eastend	Oil		D. C.		125		125		36
The Town of Estevan	Estevan	Steam		1-3	60	2,200	220	110	26	424
G. A. Petrie	Eyebrow	Oil		D. C.		125		120		38
Saxton and Spears	Fleming	Gasoline		D. C.		125		110		12
H. H. Kauffman	Foam Lake			D. C.		125	110/125	110/125		29
The Town of Govan	Govan	Oil		D. C.		110	110	110		116
A. Huel & Sons	Gravelbourg	Oil		D. C.		125		115		50
Corporation of Town of Grenfell	Grenfell	Gas		3	60	2,200		110		193
Joseph Hutchinson	Gull Lake	Gas		1-3	60	2,300		110		160
W. H. Sharpe	Hubert	Gas		3	60	2,300		110		156
The Town of Humboldt	Humboldt	Steam		1-3	60	2,300	550/220	10	21	475
The Town of Indian Head	Indian Head	Steam		1-3	60	2,200	220	110	1	343
Ituna Electric Light & Power Co., Ltd	Ituna	Oil		D. C.		125		125		29
The Town of Kamsack	Kamsack	Gas		1-3	60	2,200	220	110	3	394
William Humphey	Kelliher	Oil		D. C.		120		110		28
W. E. Gardner	Kennedy			D. C.		110	110	110		22
Town of Kindersley	Kindersley			3	60	2,200	220	110	1	240
Henry Mann	Kipling	Oil		D.C.		125		125		65
Chris. Stardahl	Lang			D. C.		120		120		45
The Town of Langham	Langham	Gas		1-3	60	2,200		110		100
Lashburn Electric Co	Lashburn	Oil		D. C.		110		110		56
Oswald Schneider	Leader			D. C.		120		120		4
Village of Leslie	Leslie	Oil		D. C.		125				23
W. Johnson & Son	Lloydminster	Steam		D. C.		220/110	220	220/110		167
George Lendvoy	Lestock			D. C.		125		110		10
Lipton Auto & Implement Co	Lipton	Oil		D. C.		110	110	110		15
Limerick Electric Lt. & Pr. Co., Ltd.	Limerick	Oil		D. C.		110				14

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year 3nded March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Regina—Concluded.—										
Ray Eldred	Lockwood	Delco		D. C.		120				15
The Town of Lumsden	Lumsden	Purchased		3	60	2,200	110	110	15	120
Foster and Brown	Macklin			D.C.		110	110	110		14
The Maple Creek Light, Power & Milling Co., Ltd	Maple Creek	Steam		3	60	2,200		110		250
Village of Marcelin	Marcelin	Oil		D. C.		110	110	110		40
Town of Melfort	Melfort	Oil		1-3	60	2,200	220	110	14	403
Town of Melville	Melville	Gas		3	60	2,300	220	110	20	550
Arthur Townsend	Milestone	Oil		D. C.		110		110		85
Anton Hepfner	Montmartre	Gasoline		D. C.		115		115		19
Corporation of City of Moose Jaw	Moose Jaw	Steam		1-3	60	2,300	220	110	195	4,805
The Town of Morse	Morse	Gas		3	60		2,300	115		85
Alex. L. Thompson	Mossbank	Oil		D. C.		120		120	2	
C. McFadden	Mossbank	Oil		D. C.		115		115		
Town of Nokomis	Nokomis	Oil		D. C.		115	110	110		125
Corporation of North Battleford	North Battleford			1-3	60	2,300	220	110	40	900
Village of North Regina	North Regina	Purchased		1-3	60	2,300		110		103
Norquay Light & Power Co	Norquay			D. C.		125	125	125		
The Town of Outlook	Outlook	Gas		3	60	2,200		110		194
The Municipality of Oxbow	Oxbow			3	60	2,300		110		90
Pelly Electric Light & Power Co. Ltd.	Pelly	Oil		D. C.		115	115	115		43
Samuel Pace	Perdue	Oil		D. C.		125	125	125		53
N. Lacoursiere	Ponteix	Oil		D. C.		110/150	110/150	110/150		27
The Municipal Electric Light & Pr. Plant	Prince Albert	Steam		1-3	60	2,200	110/220/550	110	136	1,634
The Punnichy Electric Light Co., Ltd	Punnichy	Oil		D. C.		110		110		33
Qu'Appelle Electric Light Company	Qu'Appelle	Gas		D. C.		440	220	220		90
The Town of Radisson	Radisson	Oil		D. C.		115		115		45
Rice Bros. Electric Light Co	Raymore	Gasoline		D. C.		120		110		18
McCallum Hill Building Ltd.,	Regina	Purchased		D. C.		110/220	220	110		63
Sask. Co-operative Creameries, Ltd	Regina	Steam		1-3	60	2,200		110		3
City of Regina Light & Power Dept.	Regina	Steam		1-3	60	2,200	110/220/2200	110		9,310
The Riverhurst Pr. & Light Co., Ltd.	Riverhurst	Oil		D. C.		125				45

Rosetown Electric Lt. & Pr. Co., Ltd.	Rosetown	Oil		3	60	2,300	110	110		147
Town of Rosthern	Rosthern	Oil		3	60	2,300		110	2	195
The Town of Rouleau	Rouleau	Gas		3	60	2,300		110		160
The Town of Saltcoats	Saltcoats	Gas		3	60	2,200	110	110		93
The City of Saskatoon	Saskatoon	Steam		2	60	2,200	220	110	768	7,149
The Town of Scott	Scott	Oil		3	60	2,200	220	110		50
The Citizen's Electric Light Co., Ltd	Semans	Oil				110		110		82
Shaunavon Light, Power & Milling Co. Ltd	Shaunavon	Steam		1-3	60	2,200	220	110	9	250
Mike Korchynski	Sheho					125	115	115		
Town of Sintaluta	Sintaluta	Oil				120		110		35
Star City Light & Power Co	Star City	Oil		1-3	60	2,200		110		24
Bailey Bros	Stenen	Steam		D. C.		110		110		
Corporation of Town of Strasbourg	Strasbourg	Gas		1-3	60	2,200	110	110		150
Grenfell Milling & Elevator Co	Summerberry	Delco		D. C.		115		110		32
The City of Swift Current	Swift-Current	Oil & Gas		1-3	60	4,300/2,300	220	110	49	1,024
Carrot River Valley Mills, Limited	Tisdale	Steam		3	60	550		110		150
Lee Brothers	Togo	Oil		D. C.		115		115		31
Leslie C. McBride	Tompkins	Oil		D. C.		120		120		5
Geo. A. Turner	Tugaske	Delco		D.C.			32	32		
The Town of Unity	Unity	Oil		3	60	2,300	250	110	1	140
Bellefleur & Robillard	Verwood			D. C.		120		120		36
A. F. Gerein	Vibank			D. C.		120	120	120		33
Village of Viscount	Viscount	Delco		D. C.		120		110		59
The Town of Vonda	Vonda	Gas		1-3	60	2,200	110	110		80
The Town of Wadena	Wadena	Gas		1-3	60	2,300		110		149
Alfred Lepine	Wakaw	Delco		D. C.		110				12
W. P. C. Macdonald	Wapella	Oil		D. C.		120	120	120		42
Watrous Electric Light & Power Co.	Watrous	Oil		1-3	60	2,300	110/220	110	3	200
The Town of Watson	Watson	Oil		D. C.		115	115	115		4
Corporation of Weyburn	Weyburn	Steam		1-3	60	2,200	220	110	46	794
Whitewood Power & Light	Whitewood	Oil		D. C.		115	115	115		44
Council of Village of Wilcox	Wilcox	Gas		D. C.		110				76
The Town of Wilkie	Wilkie	Oil		3-1	60	2,200	220	110	2	215
Town of Wolseley	Wolseley	Gas		3-1	60	2,300	110	110	2	203
Henderson & Jones	Woodrow	Gas				110		110		14
The Town of Yellow Grass	Yellow Grass	Gas		D. C.		125		110		94
The Town of Yorkton	Yorkton	Oil		3-1	60	2,200/2300	550	110	136	981
R. B. Preston	Young	Oil		D.C.		110	110	110		13
Calgary—										
C. P. Ry. Dept. of Nat. Res.	Bankhead and Banff	Steam		3	60	2,300	250/500/2200	110		518
C. P. Ry. Dept. of Nat. Res.	Bassano Dam	Water		3	60	2,400			1	
The United Elec. & Engineering Co., Ltd	Bassano	Gas				2,300	220/2,200	110/220	6	165
West Canadian Collieries Limited	Bellevue	Steam		3	60	2,300	220	110		125
Blackie Light & Power Co	Blackie		Oil			120		120		
The Town of Blairmore	Blairmore						110	110	9	340

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District and Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Calgary—Concluded.										
The Calgary Water Power Co., Ltd...	Calgary	Steam & water		3	60	2,200	210	105	50	2,100
Calgary Municipal Elec. Light Dept..	Calgary	Steam		3	60	2,300	220	110	765	16,582
Weno Power & Light Company	Calgary					2,300	220	110	1	4
The Canmore Coal Company Ltd.....	Canmore	Steam		3	60	2,300	220/440	110		133
The Town of Carmangay	Carmangay	Steam				240		110		69
The Town of Cardston	Cardston			2	60	2,200		110		101
The Town of Claresholm	Claresholm	Gas		3	60	2,300	220	110	1	190
International Coal & Coke Co., Ltd..	Coleman	Purchased					2,200	220		
The Town of Cochrane	Cochrane	Purchased								
The Town of Didsbury	Didsbury	Steam		3	60	2,300	220	110		180
Union Power Company Ltd	Drumheller	Steam		3	60	2,300	220	110	50	950
The Town of Gleichen	Gleichen	Steam				120/125		120/125		66
The Town of Hanna	Hanna	Steam		3		2,300		110	2	295
The Town of High River	High River	Steam			60	2,200	220	110	1	302
Hillcrest Collieries Limited	Hillcrest	Steam		3	60	2,200	550/110	110		15
The Town of Innisfail	Innisfail	Steam		3	60	2,200		110		169
The City of Lethbridge	Lethbridge	Steam		2	60	2,200	100/220	110	163	3,000
Crane Cassidy Electric Co., Ltd	Magrath	Steam				2,200	220	110		180
The Town of MacLeod	MacLeod	Gas		3	60	2,300	220	110	18	360
The City of Medicine Hat	Medicine Hat	Steam		3	60	2,300	2200/550/220	110	470	1,009
The Municipality of Nanton	Nanton	Gas		3		2,200		110		160
Olds Electric Power Company	Olds	Gas		3		2,200	220	110		200
The Municipality of Town of Pincher Creek	Pincher Creek	Steam		3	60	2,200		110		200
Raymond Electric Co., Ltd	Raymond	Steam		3	60	2,200	220	110	9	260
Calgary Power Company Ltd	Seebe	Water		3	60	12,000	600			
Trustees for the Bondholders of The Canada West Coal Co., Ltd	Taber	Steam		3	60	2,300	220	110	1	142
Vulcan Electric Light Service	Vulcan	Steam		3	60	2,200	220	110	1	167
Okotoks Electric Co., Ltd	Okotoks	Gas		3	60	2,300	220	110/220		92
Edmonton—										
Bashaw Electric Light & Power Plant	Bashaw	Gasoline		D. C.		110		110		61
G. E. Snyder	Botha					110		110		16
Adolph Noske	Bruderheim	Gas				110	110	110		15

Blue Diamond Coal Company, Ltd.	Brule Mines	Steam		3-1		2,200	480	110			
Paulson Bros	Cadogan					115	115	115			
Municipality of Camrose	Camrose	Steam		1-3	60	2,200/2,300	220	110	30	510	
The City of Edmonton	Edmonton			3	60	2,200	220/2,200	100/220	400	16,113	
The Edson Light & Power Co., Ltd.	Edson	Purchased		1-3	60	600	110/220	110		282	
Canadian National Railways	Edson	Steam		3	60	550	550	110	1		
North American Collieries	Evansburg	Steam				250	250	250			
Provincial Gaol (W. R. Abraham)	Fort Saskatchewan	Steam		D. C.		220	220	110/220	1	1	
Town of Fort Saskatchewan	Fort Saskatchewan	Purchased		1-2	60	2,200		220/110		189	
The Town of Grande Prairie	Grande Prairie			3	60	2,300	220	110	1	124	
Hardisty Electric Light Co.,	Hardisty	Gas		D. C.		220		220		79	
Oscar W. Grahn	Hay Lake	Gasoline		D. C.		32	32	32			
C. W. Lattmer	Irma	Gas				120	110	110		15	
Electric Light Department	Lacombe	Steam		3-1	60	2,300	220/110	110	30	360	
Lamont Electric Power Plant	Lamont	Oil				110		110		60	
The Town of Leduc	Leduc	Oil		3	60	2,300	220	110		126	
Alcide Bodard	Mannville	Oil				120		110		30	
The Millet Electric Light	Millet					110	110	110		7	
Mountain Park Coal Co., Limited	Mountain Park	Steam				250	250	250		2	
Mundare Electric Light Company	Mundare			1		110	110	110		55	
Brazeau Collieries Limited	Nordegg	Steam		3	60	2,300	440/220	110		50	
Provincial Asylum—Power Plant	Ponoka	Steam		3	60	2,300	2,300				
The Town of Ponoka	Ponoka	Purchased								208	
The Provost Light & Power Company	Provost	Oil		D. C.				120		44	
George H. Brady	Ranfurly	Oil				120		110		7	
The Western Genersl Electric Co., Ltd	Red Deer	Steam		3-1	60	2,300	220	110	32	502	
Ryley Light Plant Company	Ryley	Gas				110	110	110	1	6	
Nick P. Boychuck	Smoky Lake	Gasoline		1		115	115	115		6	
St. Paul Electric Supply Co., Ltd.	St. Paul	Steam		3	60	2,300		115		50	
The Corporation of Stettler	Stettler			3	60	2,300	220	110	21	316	
M-C. Hammond	Tofield	Gas				120	110	110		20	
The Town of Vegreville	Vegreville	Steam		3-1	60	2,200	220	110	22	277	
The Town of Vermilion	Vermilion			1-3	60	2,200	110/220	110	14	311	
McAthey & Jones	Viking	Gas		D. C.		110		110		16	
J. S. Babiuk	Wabamun					32		32		2	
The Town of Wainwright	Wainwright	Steam		3-1	60	2,300	220	220/110	2	225	
Robt. J. Wheatley	Westlock	Gas				120	110	110			
The City of Wetaskiwin	Wetaskiwin	Gas & Steam		2-1	60	2,300	220	115	22	545	
Nelson—											
Corporation of City of Armstrong	Armstrong	Water		3	60	2,300	110/2,200	110	12	284	
Adams River Lumber Company, Ltd.	Chase	Steam		1	125	1,100		110		48	
Crow's Nest Pass Elec. Lt. & Pr. Co., Ltd.	Coal Creek	Steam				220		220			
The Corporation of City of Cranbrook	Cranbrook	Steam		3	60	2,200	220	110	12	736	
The Corporation of City of Enderby	Enderby	Oil		3	60	2,200		110		180	
The Corporation of City of Fernie	Fernie	Purchased		3	60		220	110	21	879	

APPENDIX L—Continued.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during the Fiscal Year ended March 31, 1923.

District abd Company	Address	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Nelson—Concluded.										
The East Kootenay Power Co., Ltd.	Fernie	Water		3	60	2,300	66,000			
Golden Light Power & Water Co., Ltd.	Golden	Steam		3	60	2,200	110	110		1
The Corporation of City of Grand Forks	Grand Forks	Purchased		1-3	60		2,200	110	15	365
The Corporation of City of Greenwood	Greenwood	Purchased						120		38
The Corporation of City of Kaslo	Kaslo	Water		2	60	1,100		115/110		1
The Consolidated Mining & Smelting Co. of Canada, Ltd	Kimberley	Water		3	60	2,200	6,600	110	3	127
The Corporation of the City of Kelowna	Kelowna	Purchased		1	60		110/220	110	62	804
Crow's Nest Pass Elec. Light & Power Co., Ltd.	Michel					220		220		
The Nakusp Electric Light & Power Co.	Nakusp			1	60	1,100	110	110		115
The Corporation of the City of Nelson	Nelson	Water		1-3	60	12,000	2,200/220	110	78	1,418
The Denver Light & Power Co., Ltd.	New Denver	Water		1-3	60	2,300		110		13
The Corporation of the District of Peachland	Peachland	Water		1-3	60	2,200		110		
The Corporation of the District of Penticton	Penticton	Purchased		1-3	60	4,600	220	220/110	51	1,187
F. Cogle	Proctor	Gas		D. C.		120		110		15
Okanagan Water Power Company	Rossland	Subsidiary Company to West Kootenay Pr. & Lt. Co., Ltd.								
South Kootenay Water Power Co.	Rossland	Subsidiary Company to West Kootenay Pr & Lt. Co., Ltd.								
Rossland Water & Light Company	Rossland	Subsidiary Company to West Kootenay Pr. & Lt. Co., Ltd.								
Cascade Water Pr. & Light Co., Ltd.	Rossland	Subsidiary Company to West Kootenay Pr. & Lt. Co., Ltd.								
West Kootenay Power & Light Co., Ltd	Rossland	Water		3	60	2,500	60000/20000	2,200	46	887
The Corporation of City of Revelstoke	Revelstoke	Water		1-3	60	2,300	220/2,200	110	25	839
The Corporation of City of Salmon Arm	Salmon Arm	Oil		3	60	2,200/110		110		193
Old Enderby Rd. Elec. Light Syndicate	Salmon Arm	Oil		1-3	60	2,200	220	110		9

The Sandon Water Works & Light Co.	Sandon	Water		D. C.		120/125					
Sicamous Hotel, C.P.R.	Sicamous	Steam				120	110	110			6
Corporation of District of Summerland	Summerland	Purchased		3–1	60	4,400	220	110	6		249
The Consolidated Mining & Smelting Co. of Canada, Ltd.	Trail	Purchased		3	60		110	110	12		23
The Corporation of City of Vernon	Vernon	Oil		1–3	60	2,300	220/110	110	200		1,080
Vancouver—											
Canada Copper Corporation Limited	Allenby	Purchased		3	60		2,200/550 440/220	110			45
The Granby Consolidated Mining, Smelting & Power Co., Ltd.	Anyox	Steam & water		3	60	2,200	2200/440/220	220/110	80		276
Ashcroft Water Electric & Improvement Co.	Ashcroft	Oil		3	60	2,300	220/110	110			77
Britannia Mining & Smelting Co., Ltd.	Britannia Beach	Water		3	60	6,600	440/220	110			140
The Chilliwack Electric Co., Ltd.	Chilliwack	Water		1–3	60	2,200	220	110			
Clayburn Company Limited	Clayburn			1–3	60	500	2,200/220	110	9		24
Coalmont Collieries Limited	Coalmont	Steam		1–3	60	550	550	110			11
Canadian Western Lumber Co., Ltd.	Fraser Mills	Steam		3	60	480	440	110	35		
The Hedley Gold Mining Co., Ltd.	Hedley	Water		3–2	60	6,600	2,200	110			1
The Corporation of City of Kamloops	Kamloops	Water & steam		3	60	2,200	2200/220/110	110	88		1,538
The Corporation of City of Merritt	Merritt	Steam		1–3	60	2,300	300	110			388
Mission Public Service Co., Ltd.	Mission	Purchased							2		53
The Corporation of New Westminster	New Westminster	Purchased		3	60	2,300	110/220	110	5		4,075
Pacific Mills Limited	Ocean Falls	Water		3	60	2,200/440	2,200/440	110/220	9		320
The Powell River Co's Electric Generating Plant	Powell River	Water		1–3	50	550	550	110	27		21
Princeton Light & Power Co., Ltd.	Princeton	Purchased		3	60		2,200	110	3		181
Corporation of City of Prince George	Prince George	Oil		1–3	60	2,300	110/220	110			475
Corporation of City pf Prince Rupert	Prince Rupert	Water		2–3	60	4,400	220	110	99		1,437
Smithers Electric Limited	Smithers	Steam		3	60	2,200	110	110			117
Stewart Public Utilities Ltd.	Stewart	Oil		D. C.		125					
The Surf Inlet Power Co., Ltd.	Surf Inlet	Water		3	60	440	440	110	2		
Whalen Pulp & Paper Mills Ltd.,—Swanson Bay	Vancouver	Water		1–3	60	550	550	110			
Whalen Pulp & Paper Mills, Ltd.—Woodfibre	Vancouver	Water		D. C.		120	120	120			
British Columbia Electric Railway Co., Ltd.	Vancouver	Purchased		3–1	60	2,200	220/2,200	110	2,324		57,994
Vancouver Power Company	Vancouver	Water & steam		3	60	2,200					
Western Power Co. of Canada, Ltd.	Vancouver	Water		3	60	4,400					
The Pacific Great Eastern Rly Co.	Vancouver	Water		1–3	60	4,200	220	110			
Victoria—											
Corporation of City of Alberni	Alberni	Oil		3–1	60	2,200		110			125
Corporation of City of Courtenay	Courtenay			3–1	25		110/220	50			400
Cumberland Elec. Lighting Co., Ltd.	Cumberland			3–1	25		110/220	110	10		657
The Corporation of the City of Duncan	Duncan	Oil		1–3	60	2,200	110/220	110	6		415
Comox Logging & Railway Co.	Headquarters	Purchased		3–1	25		220	110	1		19

APPENDIX L—Concluded.

LIST of Electric Light and Power Companies Registered under the Provisions of the Electricity Inspection Act, during Fiscal Year ended March, 31, 1923.

District and Company	Address.	Prime Mover		Phases of System	Frequency of System	Generator Voltage	Service Voltages		Number of Meters	
		Type	Horse Power				Power	Lighting	Power	Lighting
Victoria—Concluded.										
Canadian Explosives Limited	James Island			3	60	2,300	220	110		55
The Corporation of the City of Ladysmith	Ladysmith	Steam		3-1	60	2,200	110	110		550
Electric Light Power & Heating Co., Ltd.	Nanaimo	Water & steam		3-1	60	2,300	2,300/110	110	35	2,287
Minto Elec. Light Ht. & Pr. Co., Ltd.	Nelson District	Purchased		1	25			110		22
Whalen Pulp & Paper Mills, Limited	Port Alice	Steam		3-1	60	2,300	2,300/440	110/220		
Corporation of City of Port Alberni	Port Alberni	Oil		3	60	2,300		110		270
The Royston Lt. & Pr. Co., Ltd.	Royston Twp.	Purchased		1	25	13,200		110		9
British Columbia Cement Co., Ltd.	Victoria (Bamberton Plant)	Purchased		1	60			100		
British Columbia Cement Co., Ltd.	Victoria (Tod Inlet Plant)	Purchased		1	60			100		
Pemberton & Son	Victoria	Purchased								1
Canadian Collieries (Dunsmuir) Ltd.	Victoria	Water		3-1	25	13,200	2,200/440	110	7	136
Canadian Collieries (Dunsmuir) Ltd.	Victoria (Wellington Plant)	Steam		D. C.		220/250	220/250	220/250	1	
Victoria Electric Company	Victoria	Purchased		1	60			110		23
B. C. Electric Railway Co.	Victoria	Water		1-3	60	700	2200/500/200	110	448	15,822
Vancouver Island Power Co., Ltd.	Victoria (Jordan River)	Water		3	60	2,300				
Vancouver Island Power Co., Ltd.	Victoria (Brentwood	Steam		3	60	2,300				
The Uplands Limited	Victoria	Purchased		1	60		220/110	110	6	16
J. A. Sayward	Victoria	Purchased					500/220	110		10

DOMINION OF CANADA

REPORT

OF THE

COMMISSIONER OF PATENTS

FOR THE

Fiscal Year ended March 31, 1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

To His Excellency, General, the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the report of the Commissioner of Patents for the fiscal year ended March 31, 1923.

All which is respectfully submitted.

JAMES A. ROBB,

Minister of Trade and Commerce.

OTTAWA, June 13, 1923.

ANNUAL REPORT

OF THE

COMMISSIONER OF PATENTS

The Honourable JAMES A. ROBB, M.P.,
Minister of Trade and Commerce.

SIR,—In pursuance of the requirements of the 63rd section of the Patent Act, chapter 69, R.S.C., 1906, and section 5A of an Act respecting the Patent Act, the Copyright Act, the Trade Mark and Design Act, and the Timber Marking Act, chapter 64, 9 and 10, George V, I have the honour to report as follows upon the proceedings in the fiscal year ended March 31, 1923, under the provisions of these Acts.

GENERAL BUSINESS

The general business of the office for the year ended March 31, 1923, showed a slight increase over the preceding year. The number of applications for patents filed was 10,806. This is 1,468 less than last year or a decrease of nearly 12 per cent. There were 12,542 patents issued. This is the greatest number of patents ever issued by the office in a single year and is an increase of 5,149 or almost 70 per cent more than last year. This large increase resulted from the change in the method of payment of fees under the Act amending the Patent Act assented to June 4, 1921. By this amendment applicants were given six months from the date of the notice of allowance of the application in which to remit the final fee. So many took advantage of this privilege to withhold the fees until the last moment that the issue of the fiscal year 1921-22 was greatly reduced. At the expiration of the first six months under the amending Act the issue of patents was very heavy for some time and the large output for this year is due in part to the effects of this Act. Certificates for renewal fees totalled 2,127, a decrease of 493 or 19 per cent less than the previous year. Eighty of the renewals were received under the Patent Act, chapter 69, R.S.C., 1906, and 2,047 were accepted as final fees under the amendment to the Patent Act, 11-12, George V, chapter 44. One hundred and one of these certificates for final fees were issued under section 5 of the amending Act as the result of the judgment given in Atlas Underwear Company vs. Commissioner of Patents. The number of assignments recorded was 5,143 a decrease of 338 or six per cent. Petitions to place 3,522 patents under the operation of section 44—the compulsory license clause—were received and 3,287 of these were allowed. This is an increase of 36 per cent or a total of 877 more than during the preceding twelve months. Two hundred and eighty-five petitions to extend the period for importation were filed and one hundred and four were

granted. This is an increase of 33 or 46 per cent. Extension of time in which to begin manufacture was given on 197 patents out of 537 petitions presented. This is 124 more than last year or nearly 170 per cent. Notices under section 8 were 289 in number, a decrease of 92 or 24 per cent from last year. Applications for caveats were a few less than the previous year but the caveats granted increased. Caveat applications amounted to 513 and caveat grants were 452. This is a decrease of 6 and an increase of 32 respectively. There were 7,134 reports by patent examiners in addition to the patents allowed. This exceeds last year by 199 or about 3 per cent. The total transactions relating to patents numbered 46,938, an increase of 8,361 or over 21 per cent in excess of last year.

Registrations of Copyright numbered 1,591. This is 126 more than last year, an increase of almost 9 per cent. Trade Mark registrations totalled 2,393, a decrease of 95 or 4 per cent. There were 372 Industrial Designs recorded, three more than the previous year. Timber Mark registrations were 17, a decrease of 3. The assignments of Copyrights, Trade Marks, Designs and Timber Marks amounted to 413. This is an decrease of 157 or 28 per cent. The total registrations affecting Copyright, Trade Marks, Designs and Timber Marks were 4,932. This is 116 or about 2 per cent less than the preceding twelve months.

A statement of the particulars of the transactions of the Patent and Copyright Office is given in appendix A, and a comparative statement for the last ten years is given in appendix B.

Receipts and Expenditure

The receipt of fees from all sources exceeded any previous year though the number of applications filed was less than last year. The large issue of patents on which the final fee had been paid during the year was responsible for the greater part of this increased revenue. The fees for filing petitions for licenses, importation and manufacture were also nearly double the preceding year as these fees were not in effect during the whole of the last year. The total net receipts were $484,478.91, an increase of $29,592.67 over the net amount received in 1922. The expenditure was $225,287.80 and the surplus of receipts over expenditure was $259,191.11. The fees received for patents was $413,237.82 a gain of $33,030.92 over the preceding year. From the Copyright and Trade-mark Branch of the office the fees were $71,241.09, a decrease of $3,438.25.

A statement of the receipts and expenditure is given in appendix C and detailed monthly statements of fees from the Patent Branch and the Copyright and Trade-mark Branch are given in appendices D and E respectively.

Residence of Inventors for Patents Granted

The country of residence of inventors for patents issued is given in appendix F. Of the total number granted, 8,405 were applied for by residents of the United States of America. This is 67 per cent of the total and is the same percentage as last year. Inventors resident in Canada contributed 2,021, or over 16 per cent. This is also the same percentage of the total issue as the preceding year. Residents of Great Britain, its colonies and possessions applied for 1,172 or 9 per cent of the whole issue. This is a 2 per cent decrease from last year. The remaining 944 patents or over 7 per cent came from inventors in twenty-six other countries. This is an increase of 2 per cent over the previous year.

Exchange of Publications

The office received during the year, in exchange for the Patent Office Record, the official publications and reports of patents, trade-marks and designs from Great Britain, Australia, New Zealand, France, the United States, Belgium, Italy, Switzerland and Japan. The office also received at intervals as published the abridgements of patents and bound volumes of patents of Great Britain, the printed copies of French patents and the current weekly issue of United States patents.

In addition about sixty-five scientific and technical periodicals for the use of the examining corps were subscribed for or exchanged for the Record.

Staff

The number of employees of the office averaged 117 during the year, consisting of 90 permanent and 27 temporary officers and clerks. This is an increase of six in the temporary staff and was due to the increased number of certified copies of patents called for, a large increase in the correspondence and the general increase in the work. During the twelve months three clerks were retired on superannuation and four clerks resigned.

Letters, Etc.

The receipt of letters relating to Patent, Copyright and other office transactions amounted to 58,269 and the letters, correspondence forms and parcels of publications despatched from the office amounted to 144,252.

Trend of Invention in 1922-23

The subject of locomotion in general maintained its pre-eminence in the field of invention. The receipt of applications relating to the many branches of this subject was maintained at about the same rate as the previous year. The land vehicle class is still the largest single class of invention and internal combustion motors is the next largest though there is a decrease of nearly twenty per cent in the latter compared with last year. Applications relating to aeronautical navigation again declined.

Inventions pertaining to tillage and grain separation and animal husbandry showed increases of nearly 30 per cent.

Applications for wireless communication showed a slight increase. Inventions for telephony and telegraphy were the same as the preceding year.

There were slight decreases in most of the metal working classes with the exception of nail and screw machines and can heading and seaming machines.

The coal shortage during the past winter provided a stimulus to inventions connected with the use of fuel oil furnaces. There was also a slight increase in coal briquetting inventions.

Inventions in printing presses and typewriters increased considerably. Many of the typewriter applications were directed to the elimination of noise and to folding portable typewriters.

Boots and shoes and the machines for their manufacture showed nearly 100 per cent increase.

Applications for wooden, metallic, glass and paper containers made appreciable gains over last year.

There was a large increase in the number of applications for grinding mills.

In many other classes of invention such as optics, photography, bundle carriers, ventilation, measuring instruments, fire escapes, ladders, driers, chemicals and cash registers, there were substantial gains.

Legislation

Four Acts relating to patents were passed by Parliament. The first of these placed a patent under the operation of section 44, as the time within which application could be made to the Patent Office had expired. The second Act extended the period of importation on one patent. The third extended the period for the commencement of manufacture on five patents and the fourth Act granted an extension of time within which to file application for patent on an invention already patented more than a year previous in a foreign country.

Bills to amend and consolidate the Patent Act, and to amend the Trade-Mark and Design Act were introduced into the House of Commons and received the first reading on February 16, 1923. The Copyright Amendment Bill was introduced on February 21, 1923, and read for the first time. No further progress on these Bills had been reported when the fiscal year ended.

Respectfully submitted,

GEORGE F. O'HALLORAN,
Commissioner of Patents.

Ottawa, June 13, 1923.

APPENDICES

APPENDIX A

Transactions of the Patent and Copyright Office from April 1, 1922, to March 31, 1923

(*a*) Transactions of the Patent Branch.

Applications for Patents		10,806
Patents granted—		
Fees paid for 6 years on issue	2,824	
Fees paid for 18 years on issue	9,666	
Re-issue Patents granted—		
For 6 years	14	
For 18 years	38	
Total		12,542
Certificates for renewal fees after issue—		
For 6 years	80	
For 18 years (as final fees)	2,047	
Total		2,127
Assignments of Patents		5,143
Reports by Examiners in addition to Patents granted		7,134
Caveat applications		513
Caveats granted		452
Petitions under section 44 (Compulsory Licence)		3,522
Grants under section 44 (Compulsory Licence)		3,287
Petitions for extension of time for importation		285
Grants for extension of time for importation		104
Petitions for extension of time for manufacture		537
Grants for extension of time for manufacture		197
Notices under section 8		289
Total transactions		46,938

(*b*) Transactions of the Copyright and Trade-mark Branch.

1. Copyrights—		
Full Copyrights without certificates	1,286	
Full Copyrights with certificates	184	
Temporary Copyrights without certificates	38	
Temporary Copyrights with certificates	12	
Interim Copyrights without certificates	50	
Interim Copyrights with certificates	21	
Renewals of Copywights		
Assignments of Copyrights	56	
Total		1,647
2. Trade Marks	2,393	
Renewals of Specific Trade Marks	128	
Assignments of Trade Marks	323	
Total		2,844
3. Industrial Designs	372	
Renewals of Industrial Designs	18	
Assignments of Industrial Designs	32	
Total		422
4. Timber Marks	17	
Assignments of Timber Marks	2	
Total		19
Total Registrations		4,932

APPENDIX B

Comparative Statement of the Transactions of the Patent and Copyright Office from 1914 to 1923, Inclusive.

(*a*) Comparative Statement of the Patent Branch.

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Applications for Patents	8,359	7,302	7,793	8,751	8,683	9,025	11,198	13,446	12,274	10,806
Patents granted	7,918	6,867	6,812	7,520	7,233	6,052	9,527	11,152	7,393	12,542
Certificates for renewal fees	1,323	1,211	1,419	1,599	1,847	2,022	2,036	2,549	2,620	2,127
Caveats granted	354	391	419	358	364	349	408	410	420	452
Assignments	3,432	3,391	3,311	3,661	3,425	3,690	4,479	5,525	5,481	5,143
Fees received, net	$215,001 71	$190,028 37	$202,630 40	$227,094 09	$228,278 57	$239,345 38	$294,046 28	$344,712 23	$380,206 90	$413,237 82

(*b*) Comparative Statement of the Copyright and Trade Mark Branch.

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Copyrights registered	1,835	1,675	1,477	1,384	1,440	1,436	2,028	1,729	1,465	1,591
Certificates of copyright	207	193	146	160	128	142	201	174	244	217
Trade Marks Registered	1,378	1,106	1,019	840	987	919	1,735	2,128	2,609	2,521
Industrial Designs Registered	165	224	215	196	177	169	186	316	384	390
Timber Marks Registered	57	24	27	55	31	90	22	58	20	17
Assignments Registered	264	242	279	333	234	255	320	624	570	413
Fees received, net	$41,251 98	$32,840 87	$29,645 11	$28,642 81	$32,265 28	$40,178 82	$60,450 69	$63,174 50	$74,679 34	$71,241 09

APPENDIX C

Receipts and Expenditures for 1922-23

Receipts		Expenditures	
Cash received	$ 510,619 13	Salaries	$ 155,037 62
Cash refunded	26,140 22	Patent Record	36,397 27
		Contingencies	33,852 91
			225,287 80
		Receipts over expenditures	259,191 11
Net cash	$ 484,478 91		$ 484,478 91

APPENDIX D

Detailed Statement Patent Office Fees for Year 1922-23

Month	Notices	Patents	Assignments	Cerified Copies	Caveats	Sundries	Subscriptions	Section 44	Import	Manufacture	Total
1922	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
April	70 00	30,625 89	1,076 55	585 60	217 50	134 60	202 75	1,315 00	206 00	262 05	34,695 94
May	48 00	37,706 28	1,228 90	595 35	265 15	177 85	128 70	1,255 00	109 25	240 00	41,754 48
June	55 00	32,129 92	1,070 65	540 55	285 15	215 05	57 55	1,200 00	55 00	247 00	35,855 87
July	50 10	31,777 45	917 95	621 45	247 15	85 90	53 65	1,122 50	60 00	135 00	35,071 15
August	56 00	30,492 24	924 33	519 53	170 44	26 50	82 25	1,607 00	100 00	180 00	34,158 29
September	37 00	31,089 65	938 50	505 16	116 00	65 80	38 68	1,363 00	100 00	130 00	34,383 79
October	42 00	32,500 13	1,006 25	634 05	175 15	23 65	58 90	1,644 00	80 00	177 00	36,341 13
November	50 00	32,112 25	863 50	757 25	195 00	21 00	41 81	1,515 00	55 00	275 05	35,885 86
December	36 00	28,586 33	883 15	648 40	218 50	0 50	787 80	1,651 00	70 00	183 00	33,064 68
1923											
January	48 00	31,919 25	935 27	745 06	220 00	3 25	257 75	2,107 00	115 00	281 00	36,631 58
February	69 00	26,795 55	863 00	478 25	245 15	19 50	67 35	1,478 00	210 00	200 00	30,425 80
March	71 00	33,218 55	1,150 50	634 60	281 00	24 75	82 00	1,481 00	359 00	248 00	37,550 40
Totals	632 10	378,953 49	11,858 55	7,265 25	2,636 19	798 35	1,859 19	17,738 50	1,519 25	2,558 10	425,818 97
Refunds	53 00	10,491 23	153 80	324 47	37 90	645 35	34 15	284 00	210 25	347 00	12,581 15
Totals	579 10	368,462 26	11,704 75	6,940 78	2,598 29	153 00	1,825 04	17,454 50	1,309 00	2,211 10	413,237 82

APPENDIX E

Detailed Statement Trademark and Copyright Fees, 1922-23

Month	Trade-marks	Copy-rights	Designs	Timber-marks	Assign-ments	Certified Copies	Totals
1922	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
April	6,880 00	135 50	207 00	9 00	70 00	89 75	7,391 25
May	6,888 45	168 50	233 00	.....	64 15	60 50	7,414 60
June	8,164 30	176 00	275 50	2 00	96 15	63 00	8,776 95
July	6,827 15	122 00	166 50	25 00	117 50	38 75	7,296 90
August	7,270 87	158 75	136 00	14 00	97 20	29 50	7,706 32
September	5,082 00	163 75	198 15	.....	29 00	53 00	5,525 90
October	6,882 10	128 50	189 15	4 00	58 15	36 25	7,298 15
November	5,836 95	138 99	173 00	4 00	66 00	75 25	6,294 19
December	5,278 50	190 40	85 00	2 00	82 00	42 25	5,680 15
1923							
January	6,741 81	194 32	157 00	6 00	40 00	40 00	7,179 13
February	7,280 72	138 50	188 00	2 00	79 00	31 50	7,719 72
March	6,075 00	195 65	135 00	4 00	58 00	49 25	6,516 90
Totals	79,207 85	1,910 86	2,143 30	72 00	857 15	609 00	84,800 16
Refunds	13,189 55	101 52	204 50	6 00	54 50	3 00	13,559 07
Totals	66,108 30	1,809 34	1,938 80	66 00	802 65	606 00	71,241 09

APPENDIX F

Residences of Inventors for Patents Granted in 1922-23

Canada—		
Ontario	845	
Quebec	430	
British Columbia	202	
Saskatchewan	166	
Manitoba	158	
Alberta	155	
Nova Scotia	35	
New Brunswick	21	
Prince Edward Island	9	
Total		2,021
Great Britain and Ireland—		
England	854	
Scotland	60	
Ireland	16	
Wales	9	
Total		939
British Colonies and Possessions—		
Australia	150	
New Zealand	63	
South Africa	13	
Newfoundland	3	
India	2	
British West Indies	1	
Egypt	1	
Total		233
Foreign States—		
America—		
United States	8,405	
Chili	4	
Mexico	3	
Argentine Republic	1	
Columbia	1	
Uruguay	1	
Total		8,415
Foreign States—*Con.*		
Europe—		
Germany	299	
France	203	
Sweden	88	
Switzerland	71	
Italy	52	
Austria	50	
Norway	50	
Belgium	33	
Holland	28	
Denmark	17	
Czecho Slovakia	7	
Spain	5	
Poland	4	
Finland	3	
Jugo-Slavia	1	
Total		911
Asia—		
Japan	15	
Philippine Islands	3	
China	2	
Dutch East Indies	1	
Total		21
Oceania—		
Society Islands	1	
Total		1
Africa—		
Tunisia	1	
Total		1
Grand total		12,542

CANADA

DOMINION BUREAU OF STATISTICS

ANNUAL REPORT

OF THE

DOMINION STATISTICIAN

FOR THE

FISCAL YEAR ENDED MARCH 31

1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1924

LETTER OF TRANSMITTAL

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to submit herewith, for the information of Your Excellency and the Parliament of Canada, the Annual Report of the Dominion Statistician, under Section 4 of the Statistics Act, 1918 (8-9 Geo. V., Chap. 43), for the year ended March 31, 1923.

I have the honour to be,

Your Excellency's most obedient servant,

THOS. A. LOW,
Minister of Trade and Commerce.

DEPARTMENT OF TRADE AND COMMERCE,
OTTAWA, September 21, 1923.

REPORT

OF THE

DOMINION STATISTICIAN

FOR THE

FISCAL YEAR ENDED MARCH 31, 1923

OTTAWA, September 21, 1923.

THE HONOURABLE THOS. A. LOW, M.P.,
Minister of Trade and Commerce,
Ottawa, Ont.

SIR,—Under section 4 of the "Act respecting the Dominion Bureau of Statistics" (8-9 Geo. V, Chap. 43), I have the honour to submit the following report with regard to the work of the Dominion Bureau of Statistics during the fiscal year ended March 31, 1923.

The outstanding feature of the year has been the marked increase in the demands made upon the Bureau by the general public; within the past two years the number of inquiries addressed to the Bureau has more than doubled, the major portion of this growth having occurred in 1922-23.

Two important changes in the organization of the Bureau were carried out during the year. By Order in Council dated October 16, 1922, a delimitation of functions as between the Bureau and the Department of Labour was arrived at, whereby the statistics of employment and prices will be carried out in the Bureau, and the statistics of wages, rents, labour organizations, trade disputes and industrial accidents, will be co-ordinated between the two branches; a saving in staff and an improvement in the general quality of these statistics will result. A second change in organization was effected by an Order in Council, dated December 2, 1922, whereby the statistician of the Forestry Branch, Department of the Interior, was transferred to the Bureau; the new section will cover not only the statistics of operation in the woods, saw-mills, pulp and paper mills, but those of all other secondary industries that depend upon the forest for their principal raw materials.

In the report on the Bureau for 1922, an outline was given (pp. 9-11) of the organization of statistics yet to be completed. In this connection the Canada Year Book has been extensively improved during the past year, and will in future, it is thought, well meet the demand for a publication furnishing within the limits of a single compact volume a general correlated survey of the physical features, history, institutions, natural resources, production, trade, finance, and general social and economic life of the Dominion.

The more important work carried out in the different branches of the Bureau during the past year is briefly described in the following statements by the chiefs in immediate charge.

Population Branch

Mr. E. S. Macphail, chief, reports:—

Census.—Rapid progress has been made with the compilation of the 1921 Census; as a result the staff of temporary clerks has been largely reduced. The punching of the first population card was completed. The agricultural schedules, numbering 712,000, were coded, and a corresponding number of cards punched. For five provinces a second population card, covering occupations and family statistics, was punched. Five bulletins on agriculture, and two on population (dealing respectively with racial origins and religions) were published during the year. It is expected that the coming year will see the issue of all preliminary bulletins and of the major portion of the final report.

Vital Statistics.—The first annual report of a general character on births, deaths and marriages in Canada was sent to press during the year. A "Physician's Pocket Reference to the International List of Causes of Death," was prepared and sent to press.

Agricultural Statistics Branch

Mr. E. H. Godfrey, chief, reports:—

Crop Reporting Service.—The work has proceeded on the lines described in the report for 1921-22. The crop reports of the Bureau meet a two-fold purpose, viz., (1) the agricultural and national requirements of Canada, and (2) international requirements as represented by the International Institute of Agriculture at Rome. The main reports relating to the areas and yields of field crops are issued definitely as follows:—

On or about June 10—Preliminary estimate of areas sown.
On or about July 14—Revised estimate of areas sown.
On or about September 11—Preliminary estimate of yields.
On or about November 29—Final estimate of areas sown and provisional estimate of yields.
On or about Janauary 19—Final estimate of yields.

The first two estimates of areas sown are of tentative character, based upon the reports of crop correspondents in percentages of the finally established records of the previous year. The provisional and final estimates of yields are based upon the annual returns of areas sown as collected for permanent record through the rural schools in June. As in previous years, the returns of areas were collected in 1922 on cardboard schedules from individual farmers through the rural school teachers and children, except in British Columbia, where they were obtained direct by mail. In British Columbia also, under arrangement made with the Department of Indian affairs, complete agricultural statistics of the Indian reserves for 1922 were collected from the Indian agents; for 1923 similar plans are being extended to the Indian reserves throughout Canada. In view of the larger proportion of returns received in British Columbia, where the schedules are mailed direct to farmers, the same plan is being applied experimentally to Prince Edward Island for the returns of 1923, cardboard registers having been made of the names and addresses of farmers in both provinces from the census schedules of 1921. Also, in preparing for the collection of the annual returns of 1923, arrangements have been made by which the areas sown to wheat, oats,

barley, rye and flaxseed in the three Prairie Provinces will be separately compiled first, leaving the other crops in the Prairie Provinces, all the crops in the other provinces, and the numbers of farm live stock, to be compiled later. By this means it is hoped that it may be possible for the September preliminary estimate of the yields of the more important crops to be based upon the final estimate of areas sown in the three Prairie Provinces.

Proposed Interprovincial Conference.—When the present system of collecting annual agricultural statistics in co-operation with the Provincial Governments was instituted in 1917 it was upon the understanding that it should be brought under review at a conferencee to be convened after experience of its working. The necessary authority having now been given, it is proposed to convene at Ottawa in the fall of 1923 a conference comprising representatives of the Bureau, of the Department of Agriculture and of each of the nine Provincial Governments for the purpose of considering the working of the present system, and of adopting recommendations for its improvement as the result of experience gained.

Annual Statistics of Fruit Production.—For the three years 1919 to 1921, in co-operation with the Fruit Branch of the Department of Agriculture, annual statistics have been collected of the commercial production and value of apples and of the sales of nursery fruit stock. For 1922, as the result of representations made by the Nurserymen's section of the Canadian Horticultural Council, the year for the return of sales of nursery stock has been changed. Arrangements have also been completed by which, starting with the year 1922, the annual fruit statistics shall embrace not only apples, but all other kinds of tree fruits as well as small fruits produced commercially in Canada.

Monthly Bulletin of Agricultural Statistics.—In addition to the regular features of the bulletin, various reports and articles of a special character on agricultural subjects have been published. The following is a selection of the titles of the more important: Clover and Grass Seed Prices (April and May); Stocks of Grain in Canada (April and September); Effect of Winter on Storage of Potatoes (April); Dates of Seeding and Appearance above Ground of Spring Wheat (May, June); Influence of the Weather upon Spring Wheat (July-October); Fruit Statistics of Canada, 1921 (August); Production of Sugar Beets and Beetroot Sugar, 1921 (September); Areas in Western Ranches (November); Acreage under Pasture in Canada, 1918-22 (December); Quality of Grain Crops, 1912-22 (January); Production and Value of Farm Eggs in Canada (January); Silos in Quebec (January); Canadian Tobacco Crop of 1922 (February); Commercial Production of Onions in Canada (February); Index Numbers of Agricultural Prices (March); Field Crops of Canada, compared as to Quantity and Value, 1921 and 1922 (March); Production of Maple Sugar and Syrup in Quebec, 1918-22 (March); Hops in British Columbia (March). In addition, special articles have been contributed by the Chief of the Branch on the following subjects: Distribution of the Canadian Wheat and Oat Crops, 1919 to 1921 (April); Production and Consumption of Potatoes in Canada (July); Annual Agricultural Estimates of the Dominion and Provincial Governments (September); Agricultural Development in Canada (November); World's Production of Cereals and Potatoes (December); Agricultural Revenue and Wealth of Canada (March).

Miscellaneous.—A large number of inquiries have, as usual, been answered, and special information on agricultural statistics has been furnished for the purpose of home and foreign works of reference.

Industrial Census

Under sections 20-21 of the Statistics Act, the annual statistics of fisheries, mines, forestry, furs, water-powers and general manufacturers are carried out by the Bureau in co-operation with the several Dominion and provincial departments concerned.

Fisheries, Fur Farms, Dairy Factories.—Under Miss F. A. Brown, the statistics of fish caught and landed and of the 842 fish canning and curing establishments in operation in Canada were issued as follows: Preliminary reports for Prince Edward Island, April 1; Nova Scotia, April 25; the Prairie Provinces and Yukon Territory, April 29; British Columbia, May 9; and New Brunswick, May 18. The preliminary report for the Dominion was issued in July, and the final report (catch, equipment, employees, etc., by counties) in October.

The work of collecting and revising reports of dairy factories in collaboration with provincial dairy commissioners commenced in January, 1922, was completed in the early months of the fiscal period 1922-23. The preliminary statement for the Dominion was issued on June 1. A list of the dairy factories of the Dominion was included in the report for this year.

The statistics of fur farms and of raw furs (wild-life) purchased are brought out in co-operation with the provincial authorities, who supply lists of licensed fur farmers and of licensed fur traders. In the case of New Brunswick, the reports are collected and revised by the Chief Game Warden, and forwarded to the Bureau for compilation. Approximately 1,290 reports relating to fur farmers were handled during the year, a preliminary report being issued June 10, and the final report, October 14. The report of total fur production (including wild-life) of the Dominion for 1920-21 was issued at the end of April. The list of fur-traders for the Dominion now contains about 2,700 names. An arrangement has been made with Nova Scotia, Quebec and Saskatchewan whereby the provincial authorities will in future furnish the Bureau with an annual statement of the number and value of the different kinds of pelts stamped during the twelve months ended June 30; this eliminates the necessity of sending schedules to fur traders in these provinces and ensures uniformity in the statistics issued by the Dominion and the provinces.

During the past year, this branch of the Bureau took over the statistics of slaughtering and meat-packing and allied industries, leather, etc., from the branch on general manufacturers, thus amalgamating all activities of the Bureau in connection with the statistics of manufactured animal products.

Mining, Metallurgical and Chemical Branch.—Mr. S. J. Cook, chief, reports:—

Stabilization of the work characterized the year. The number of reports was increased, including the first comprehensive report on the Mineral Production of Canada to be brought out by the Bureau. Every effort was made in this report to ensure continuity with previous reports issued by the Geological Survey and the Mines Branch. The statistics relating to the different minerals and the general statistical tables were prepared as formerly. General reviews of the principal mineral industries (e.g., the copper-gold industry; the silver-lead-zinc industry; the nickel-copper industry, etc.), and a section on metallurgical works were included for the first time.

Preliminary reports on the Mineral Production of Canada for the half-year ending June, 1922, and for the calendar year, were issued as usual, the latter for distribution at the meeting of the Canadian Institute of Mining and Metallurgy in March, 1923. An estimate of the mineral production of Canada during 1922

was prepared in December, 1922, and was short only 1·3 per cent from the totals obtained in March following.

Towards the close of the year it was decided to issue a series of brief summary reports giving the final statistics for 1922 on the production of the several metals and non-metals in Canada, and the total mineral production by classes for each province.

A report on "Coal Statistics," covered every phase of production, imports and exports, for the years 1919, 1920 and 1921. "Chemicals and Allied Products, 1919 and 1920," presented the first comprehensive treatment of this subject, and a report on "Iron and Steel and Their Products," contained not only reports of the production of pig-iron, steel ingots and castings, and the operations of rolling mills, but twelve additional chapters, each dealing with a particular phase of the iron and steel industry (fifty-three in all), thus presenting in one cover a complete survey of the iron and steel working industries in Canada. The monthly reports on the production of iron and steel and of coal were continued, the latter being published in printed form as from January, 1923. The branch covers, in addition to the above, the manufactures of non-ferrous metals and the manufactures of non-metallic minerals

Two special investigations were undertaken during the year, one on the consumption of talc and soapstone in Canada, and the other on the consumption of non-metallic minerals.

The great majority of the returns asked for covering the calendar year 1922 were received by March, 1923, the record in this respect being greatly improved over any previously established, largely due to the fact that the schedules were considerably simplified and more vigorously followed up; appreciation of the utility of the Bureau's reports seemed likewise to be growing among industrialists.

The working plans of co-operation between the Bureau and the coal-producing provinces were unchanged, but their efficiency was considerably increased. The co-operative arrangement with the province of Ontario was also the subject of further improvement.

General Manufactures.—Mr. J. C. Macpherson, chief, reports:—

Blank schedules were mailed to 39,208 manufacturers during the first two weeks of February, 1922. The customary follow-up letters were mailed to dilatory firms, and the net result at the close of the calendar year showed a total of 32,745 complete reports received. The following bulletins were published: General Report on the Manufactures of Canada, 1920; reports on separate industries for 1920 as follows: aerated and mineral waters; baking industry, bread, etc.; leather boots and shoes; carriage and wagon industry; carriage and wagon materials; clothing industry, men's wear; clothing industry, women's wear; cocoa and chocolate industry; coffin and casket industry; cork products; containers; foundry patterns; fruits and vegetables (evaporated, canned and preserved); hats, caps and furs; hosiery and knit goods; leather; leather goods, n.e.s.; liquor distillation; malt liquors; linseed oil; men's furnishing goods; musical instruments; miscellaneous paper products; miscellaneous wood products; printing trades; rubber; sash, door and planing mills; ship and boat building; show case and store fixtures; tobacco; trunks and valises; woollen textiles; wooden pumps.

A large number of inquiries from private individuals, trade societies, and from other sources were received for information on a wide range of subjects.

It was decided to discontinue obtaining annual reports from boot and shoe repairers, watch and jewellery repairers, custom tailors, milliners, blacksmiths, automobile and bicycle repair shops, and jobbing plumbers, except at quinquennial intervals.

External Trade Statistics Branch

Mr. W. A. Warne, chief, reports:—

The scope and variety, as well as the volume of the work performed in this branch during 1922-23 showed marked increases over any previous year, the revival of commerce and industry causing a greater demand for special information.

Trade Classification.—At the usual annual conference with the Department of Customs held in November, 1922, a number of new items were added to the classification of imports. Arrangements were also made to issue quantity statistics for several items in both import and export schedules for which only value figures have been available heretofore. Each of these changes was in compliance with a definite request from manufacturers or dealers.

Annual Trade Report.—The Annual Trade Report for the fiscal year 1922 was the most complete record of Canada's external trade that has ever been compiled. All the features of preceding issues have been retained, and several special ones added. A change introduced for this issue only is the showing of statistics for the fiscal year 1914 side by side with figures for 1919, 1920, 1921 and 1922, so as to afford comparison in detail of the trade in the last pre-war year with that in the last year under war conditions and the three succeeding years of peace.

Monthly Trade Report.—This report was also improved by the introduction of revised classifications and the addition of new items. There has been a further gain in respect to promptitude of issue.

Trade Advance Summary.—The demand for more detailed advance information was so insistent that it was deemed advisable to double the size of the "Advance Summary," the additional space being devoted to new items in both import and export schedules, and also to the showing of quantity statistics in the import list, which had previously showed values only.

Advance Monthly Statements.—Four years ago the branch commenced the issue of advance statements monthly to leading concerns in various lines of business. The demand for these statements has increased steadily from the time of their inception, but never so rapidly as during the past year. Many additional lines of trade are now covered, and the circulation of each statement is also greater than before. The service to the general public has also been increased by issuing the same information through the press.

Special Publications.—Three special publications were prepared: An advance report on the year's trade published in the Commercial Intelligence Journal; a special report on the trade in farm products, first printed in the Monthly Bulletin of Agricultural Statistics; and for the use of the Canadian representatives at the Pan-Pacific Conference at Honolulu in October, 1922, a special report comprising fifty printed pages, showing Canada's trade with countries on the Pacific ocean, including all of Asia and Oceania. This report was favourably received by the conference, as well as by the press of the Dominion, and a considerable number of copies have been distributed. The branch has also furnished two statistical tables each month to the Commercial Intelligence Journal, one an advance summary of Canadian trade, and the other showing details of exports of Canadian farm products affected by recent changes in the United States Customs tariff.

Special Work.—Special statistical researches and compilations for Parliament, for individual ministers and members, for other Government departments, boards and commissions, and for private, financial, industrial, commercial and transportation concerns has required more of the time of the staff during 1923 than in any previous period.

SESSIONAL PAPER No. 10

Internal Trade Statistics Branch

Mr. F. J. Horning, chief, reports:—

Grain Statistics.—The 1922 report on the Grain Trade of Canada has been extended to include information on grain freight rates, and an attempt has been made to show charges from the western farm to European markets. Rates via both the eastern and Vancouver routes have been traced. The data have been carried back for five years, and will now be kept up annually. Rates on Canadian railways were secured through the co-operation of the Board of Railway Commissioners and are on a basis permitting of use by the Transportation Branch in the calculation of an index number. Tables relating to international trading in grain have also been extended.

Weekly reports have been issued showing the visible supply of Canadian grain in Canada and in United States lake and Atlantic ports, as well as movement, inspections and exports. A weekly record of grain prices in Winnipeg and Toronto has been added, with a statement showing receipts at the head of the lakes by railways. Visible supply figures have been extended to include grain in winter storage afloat in Canadian and United States lake ports. Shipments from public elevators in the East have been divided to show local shipments, shipments to Montreal, the Canadian seaboard, other Canadian points, United States seaboard points, other United States points and direct shipments to the United Kingdom and other countries. Various special and supplemental statements have also been included.

Milling.—Monthly reports are issued showing the amounts of grain ground, etc., by flour and grist mills; information is also shown as to stocks on hand. An annual summary is included in the Grain Trade Report. An historical survey of the flour and grist milling industry in Canada was prepared early in 1923 as Part I of a comprehensive statistical report of this industry.

Live Stock and Animal Products.—The third annual report covering the supply and marketing of live stock and animal products for 1921 was prepared in collaboration with the Department of Agriculture. Monthly and annual reports on stocks in cold storage are prepared; reports of stocks of apples and milk products have been added and the classification of fish in cold storage has been extended.

Coal Trade.—Monthly reports have been compiled showing receipts of coal by retail dealers, prices, stocks on hand, etc. These data were published in conjunction with statistics of coal production, importation and exportation, etc., in collaboration with other branches of the Bureau. Special reports as to stocks at certain seaboard ports have been compileed monthly for the use of the Naval Service. During the past winter a serious coal shortage existed and special reports and compilations were issued from time to time.

Sugar.—Monthly reports showing the receipts, meltings and stocks of raw sugar, and manufactures, shipments and stocks of refined sugar have been issued regularly. An annual summary, 1922, with supplementary data as to imports and exports, was also issued. This report has been well received and circulation has materially expanded.

Wholesale Prices.—The first report on Prices and Price Indexes during 1918 to 1922 is now in press. By arrangement made in 1919, confirmed by Order in Council dated October 16, 1922, the collection of prices statistics and the preparation of the official index numbers will in future be carried out in the Bureau, the Bureau supplying the materials for the monthly review of wholesale prices which appears in the *Labour Gazette*. A review of retail prices in Canada and index numbers of wholesale and retail prices in other countries is also included. This work is under the immediate direction of Mr. H. Marshall, B.A.

Retail Prices.—Prices of a selected list of commodities are also being compiled and tabulated, statements being sent each month to the Department of Labour. Special compilations have been made monthly for the British Columbia Provincial Department of Labour, the Mothers' Allowance Commission of Ontario, and various commercial organizations.

In addition to the regular reports of the branch, special compilations relating to grain, live stock and prices statistics for the use of the Select Standing Committee on Agriculture and Colonization, of the House of Commons, during the session of 1922, the special committee of the House inquiring into agricultural conditions, and the Royal Commission to inquire into freight rates upon the great lakes, etc., special compilations of coal trade statistics were also made.

Transportation and Public Utilities Branch

Mr. G. S. Wrong, chief, reports:—

During 1923, the Transportation Branch compiled and published annual reports on steam and electric railway statistics for 1921, canal statistics for 1921 and 1922, and central electric stations statistics for 1920; also annual reports on telephone, telegraph and express statistics, 1921. The reporting forms of steam and electric railways were revised, improved and reprinted. The Railway Statistics report was much improved in both scope and format, and although containing more data, was reduced in size from 308 pages to 236 pages.

Monthly reports in mimeograph form were issued on railway operating statistics, railway traffic statistics, and canal statistics; and summary reports were also published for 1921 traffic statistics and for 1922 railway operating statistics and canal statistics. The Monthly Railway Operating Report was enlarged and improved.

The report of the Census of Canadadian Registered Vessels, 1918, was completed and published, the staff on this work being released.

Arrangements were made with Ontario and Nova Scotia for the co-operative collection and compilation of telephone statistics and similar negotiations are under way with other provinces. It is also proposed to compile uniform data on motor vehicles registered in Canada in co-operation with the several provinces. Ontario, Quebec and Manitoba have already modified their registration forms to permit of this, and all the provinces are in sympathy with the proposal.

There is also in preparation and under consideration the following work: compilation of rail and water rates on a selected list of commodities between representative points and computation of a freight rate index number; collection and compilation of statistics on water-borne traffic; collection and compilation of statistics of Canadian shipping (water); weekly report of car loading on railways; collection and compilation of statistics of automobiles registered in each province.

Finance Statistics Branch

Col. J. R. Munro, chief, reports:—

Provincial Finance.—The classification of provincial public accounts for 1921 was completed and a final revision made of the tables. Summaries were compiled for the Canada Year Book, including ordinary revenues and expenditures, and the assets and liabilities of each province. As it is considered too expensive to print the full report at the present time, the branch has compiled a report in somewhat less detail for 1921, which will be printed for distribution.

Many inquiries have been received re assessed valuations and in consequence the branch has prepared with the co-operation of the provincial authorities a bulletin on Assessed Valuations and Exempted Properties, by provinces, for the years 1919-20-21. The bulletin deals with the valuations of taxable property, personal property, income and other taxable valuations, as well as the valuations of exempted properties for cities, towns, villages and rural municipalities, by provinces.

Municipal Finance.—(*a*) Statistics of urban municipalities having a population of 1,000 to 3,000 were printed covering 241 towns, showing areas, population, assessed valuations, rates of taxation, exemptions, improvements, water supply, fire department statistics, while receipts, expenditures, assets and liabilities, were shown in classified detail. (*b*) Statistics of urban municipalities having a population of 10,000 and over. Certain facts given in the first report which were more or less of an historical character were eliminated but the financial data were expanded, particularly the table showing assets. The report dealt with some fifty-seven cities.

The demand for statistics of public finance is steadily increasing and the preparation of the various special statements asked for takes up much of the time of the small staff employed. The provincial and municipal annual reports could be improved by earlier compilation. A conference of heads of provincial treasury and municipal departments, financial controllers of leading city municipalities, together with prominent bond dealers, would undoubtedly assist in standardizing the forms of presenting public finance.

Judicial Statistics Branch

Mr. R. E. Watts, chief, reports:—

The statistics of juvenile delinquency received special attention during the past year. After conference in April and September at Toronto, with judges of juvenile courts and officers of child welfare associations, a new form was adopted for reporting juvenile delinquents. Owing to the lateness in the year, changes of clerks of juvenile courts, and other causes, complete returns on these forms have not been received for Ontario and the other eastern provinces; the four western provinces of Manitoba, Saskatchewan, Alberta, and British Columbia, however, have made complete returns. Some instructive tables will accordingly be shown in the next annual report for these provinces respecting juvenile delinquents. Details will include country of birth of child and of parents, religion and occupation of parents, school grade at each age by sexes, number of previous delinquencies, etc., in addition to the offence and disposition of the case. An effort is also being made to procure statistics of neglected and dependent children from the superintendents of provincial departments of neglected children.

The remainder of the work of the past year has been similar to that of previous years. The report of 1922 consisted of 310 pages with an introduction of sixteen pages, the subject-matter being wholly collected from the courts.

Education Statistics Branch

Mr. M. C. Maclean, Chief of Education Statistics, reports:—

The first annual report on Education in Canada was prepared and published (184 pages). The report has met with general approval in educational and statistical publications. The Educational Association of Manitoba passed a resolution commending the work of the branch, while three principals of normal schools in Alberta, Ontario and Quebec, respectively, have expressed their satis-

faction with the report. When the report was first sent out it was accompanied by a letter asking for suggestions. The replies were most satisfactory, the suggestions being all constructive and the spirit of the replies showing the most cordial interest in the work. In August, 1922, the Canadian Teachers' Federation Conference at Montreal passed a resolution endorsing the work of the Education Statistics Branch and asking for its extension.

An enlarged edition of the Historical Statistical Survey of Education in Canada was prepared and completed by the end of July, 1922. The publication of this work was postponed, though it may be mentioned that the supply of the original (published) English edition has been exhausted for some time, and that it has been necessary to refuse numerous requests for copies.

Forms of return were prepared and sent to (1) business colleges; (2) private elementary and secondary schools; (3) universities and colleges; and (4) playground associations. The last mentioned were sent with the approval of Provincial Departments of Education at the request of the National Council on Child Welfare. Questionnaires were also sent to provincial departments on education for uniform information on (1) agricultural, technical and special cultural education; (2) medical inspection and special classes; (3) rural school organizations and consolidations; and (4) institutions for teacher training. The information thus received will be published in the next report.

Numerous inquiries on education statistics have been answered. A few of these required a considerable amount of research, as, for example, one regarding a method of ascertaining the number of children who enter high school before leaving school. There are indications that the tendency to consult the branch on certain points by provincial educational authorities is increasing.

The Department of Education of Prince Edward Island changed its course of studies during the year so that its statistics can now be given in accordance with agreement at the conference of 1920. The Department of Education of British Columbia has also notified the branch that it is making a similar change.

General Statistics Branch

Professor S. A. Cudmore, chief, reports:—

The chief work of the year was the preparation of the 1921 edition of the Canada Year Book in English and French. The edition was greatly improved as compared with previous editions. Altogether it may be estimated that the 1921 volume contains approximately one-third more matter than any other previous edition of the Year Book. A good deal more was attempted in the way of analysis of the tables published in the various sections and an endeavour was made to present interesting historical information both in the letterpress and in the tables, so as to show the growth of Canadian production, of Canadian trade and transportation and the development of the finance, banking and insurance systems from the time of Confederation. The volume has been very favourable received by the Canadian press, and also by the more specialized economic and business journals of other countries interested in Canadian affairs.

A task supplementary to the preparation of the Canada Year Book has been the supplying of material relating to Canada published in such official British publications as the Statistical Abstract for the British Overseas Dominions and Protectorates and the Colonial Office List. Similar work has been completed for the Statesman's Year Book, Whitaker's Almanac and the London Stock Exchange Intelligencer (British), the New York World Almanac and the Brooklyn Eagle Almanac (United States), the Almanac de Gotha

(Germany), besides such Canadian publications as Heaton's Annual, Five Thousand Facts about Canada, the Royal Bank Report, and various other works of reference. In this way much information about Canada is diffused throughout other countries as well as through our own.

In addition to this work the General Statistics Branch keeps closely in touch with the current economic trend in the United States, the United Kingdom and other countries, whose prosperity or depression affects conditions here. As a result of the study of their publications of a "barometric" character, the General Statistics Branch has prepared a Monthly Review of Current Canadian Statistics, which is kept up to date, though it has not as yet been published. Further, the branch prepares monthly the Canadian "barometric" statistics which are published in the monthly summary issued by the League of Nations and also by the International Institute of Commerce at Brussels. In connection with this part of its work the General Statistics Branch collects under the Bankruptcy Act the statistics of commercial failures throughout Canada.

The monthly collection of employment statistics from employers, perhaps the most valuable single Canadian "barometric" statistic, was transferred during the year from the Department of Labour to the Bureau of Statistics. This employment statistics, covering nearly half of all those employed in industries other than agriculture in Canada, has been highly appreciated in other countries, and is considered to be one of the best employment statistics in existence. In addition the branch collects and publishes a monthly record of building permits issued in some fifty-six cities throughout Canada.

Numerous inquiries for statistics of a general character relating to Canada, its provinces, and other countries both within and without the British Empire, have been answered by the General Statistics Branch. In connection with this work the branch is entrusted with the administration of the library of the Bureau, the only statistical library maintained by the Government of Canada. In this library the official publications of all countries and of very many provinces and cities within these countries are received. During the ten months from June 1, 1922, to the end of the fiscal year, 12,266 publications were received in the library. Loans to the number of 9,733 were made to borrowers within and without the Bureau during this period. These borrowers included eleven different departments of the Government of Canada.

I have the honour to be, sir,

Your obedient servant,

R. H. COATS,

Dominion Statistician.

APPENDIX

REPORTS, BULLETINS, PRESS RELEASES, ETC., ISSUED BY THE DOMINION BUREAU OF STATISTICS

ADMINISTRATION—

Annual Report of the Dominion Statistician.

POPULATION—

Census—

I. Census of Population and Agriculture, 1921.

Bulletins of the Sixth Census of Canada, 1921, as follows:—

(1) Population of the Dominion: (*a*) Population of Canada, 1921, by Provinces, Electoral Districts, Cities, Towns, etc. (*b*) Religions of the People, 1921. (*c*) Origins of the People, 1921. (*d*) Racial Origins of U.S. born, 1921. (*e*) Birthplaces of the People, 1921. (*f*) Canadian-born according to Nationality of Parents, 1921. (*g*) Year of Immigration, Naturalization and Citizenship, 1921. (*h*) Ages of the People, 1921. (*i*) Conjugal Condition of the People, 1921. (*j*) Language Spoken, 1921. (*k*) Literacy, 1921. (*l*) Occupations, 1921. Also Bulletins on Population by Provinces as follows: (*a*) Population of Nova Scotia—Electoral Districts, etc. (*b*) Population of Prince Edward Island—Electoral Districts, etc. (*c*) Population of New Brunswick—Electoral Districts, etc. (*d*) Population of Quebec—Electoral Districts, etc. (*e*) Population of Ontario—Electoral Districts, etc. (*f*) Population of Manitoba—Electoral Districts, etc. (*g*) Population of Saskatchewan—Electoral Districts, etc. (*h*) Population of Alberta—Electoral Districts, etc. (*i*) Population of British Columbia—Electoral Districts, etc.

(2) Census of Agriculture, 1921: (*a*) Field Crops of Prairie Provinces, 1921. (*b*) Agriculture of Canada—General Summary. (*c*) Pure-bred Domestic Animals, 1921. (*d*) Agriculture of Nova Scotia, 1921. (*e*) Agriculture of Prince Edward Island, 1921. (*f*) Agriculture of New Brunswick, 1921. (*g*) Agriculture of Quebec, 1921. (*h*) Agriculture of Ontario, 1921. (*i*) Agriculture of Manitoba, 1921. (*j*) Agriculture of Saskatchewan, 1921. (*k*) Agriculture of Alberta, 1921. (*l*) Agriculture of British Columbia, 1921.

N.B.—The Reports of the 1921 census will include four volumes on population and one on agriculture; there will also be issued a series of special reports on the Foreign-born, Origins of the People, Religions, Families, Housing, Literacy and School Attendance, Earnings of the People, Unemployment, etc.

II. Census of Population, etc., 1911—

Reports of the Fifth Census of Canada, 1911: Vol. I. Areas and Population by Provinces, Districts and Subdistricts, with Introduction, Tables I to XV, pp. i-viii, 1-623. Vol. II. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634. Vol. III. Manufactures for 1910 as enumerated in June, 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432. Vol. IV. Agriculture, with Introduction. Tables 1-90, I-XXXV, pp. i-xcv, 1-428. Diagrams 5 pp. Vol V. Forest, Fishery, Fur and Mineral production, with Introduction. Tables 1-51, I-XXVI; pp. i-l, 1-171. Vol. VI. Occupations of the People, with Introduction. Tables 1-25, I-VI, pp. i-xxxi, 1-469.

Bulletins of the Fifth Census of Canada, 1911: Manufactures of Canada—Dairy Industries—Agriculture, Prince Edward Island—Agriculture, Nova Scotia—Agriculture, New Brunswick—Agriculture, Quebec—Agriculture, Ontario—Agriculture, Manitoba—Agriculture, Saskatchewan—Agriculture, Alberta—Agriculture, British Columbia—Religions—Origins of the People—Birthplace of the People—Educational Status—Mineral Production—Infirmities—Ages—School Attendance.

Special Report of the Foreign-born Population. (Abstracted from the Records of the Fifth Census of Canada, June, 1911, 23 tables, 62 pp., 1915.)

III. Census of Population and Agriculture of the Prairie Provinces, 1916—

Report of the Census of Population and Agriculture of the Prairie Provinces, 1916. Tables 1-54: I-XXVI, pp. i-lxiv, 1-356.

SESSIONAL PAPER No. 10

Births, Deaths and Marriages—

IV. Vital Statistics.—(1) Annual Report on Vital Statistics of Canada by provinces and municipalities. (2) Monthly Report of Births, Marriages and Deaths, by provinces. (3) Report of Conference on Vital Statistics, held June 19-20, 1918, pp. 1-48.

PRODUCTION—

I. General Summary of Production—

Including and differentiating (gross and net) (1) Primary Production (Agriculture, Fishing, Furs, Forestry and Mining), and (2) Secondary Production, or General Manufactures.

II. Agriculture—

(1) Monthly Bulletin of Agricultural Statistics. (Contains monthly reports on agricultural conditions, prices, weather, etc.—preliminary, provisional and final estimates of areas, yields, quality and values of field crops—numbers and values of farm live stock, poultry, etc.—fruit statistics—stocks of grain—annual summary of agricultural production—international agricultural statistics.) (2) Advance Summaries of Agricultural Statistics (monthly).

(See also Censuses of Agriculture above.)

III. Furs—

(1) Annual Report on Fur Farms. (2) Annual Report on the Production of Raw Furs (wild-life).

IV. Fisheries—

(1) Annual Report on Fisheries Statistics (2) Advance Summaries of Fish caught, marketed and prepared, by provinces, districts, etc.

V. Forestry—

(1) Annual summary of the value, etc., of forest production (Covers operations in the wood for sawmills, shingle mills, pulp and paper mills, etc, production of mining timber; production of poles and cross ties, and farm production (decennial) of firewood, posts, etc.)

(See also Reports on manufactures of Forestry Products listed under "Manufactures", Section VII, subsection (5).)

VI. Mineral Production: (Mining and Metallurgy)—

(1) General Reports: (a) Annual Report on the Mineral Production of Canada; (b) Preliminary Reports (semi-annual) on the Mineral Production of Canada.

(2) Coal: (a) Annual Report on Coal Statistics for Canada; (b) Monthly Report on Coal Statistics for Canada.

(3) Annual Bulletins on the following subjects: Metals—(a) Arsenic; (b) Cobalt; (c) Copper; (d) Gold; (e) Iron Ore; (f) Lead; (g) Nickel; (h) Metals of the Platinum Group; (i) Silver; (j) Zinc; (k) Miscellaneous Non-Ferrous Metals including: Aluminium, Antimony, Chromite, Manganese, Mercury, Molybdenum, Tin, Tungsten. Non-Metals—(a) Asbestos; (b) Coal; (c) Feldspar; (d) Gypsum; (e) Iron Oxides; (f) Mica; (g) Natural Gas; (h) Petroleum; (i) Quartz; (j) Salt; (k) Talc; (h) Miscellaneous Non-Metallic Minerals including: Actinolite, Barytes, Corundum, Fluorspar, Graphite, Grindstones, Magnesite, Magnesium Sulphate, Mineral Waters, Natro-alunite, Peat, Phosphate, Pyrites, Sodium carbonate, Sodium sulphate, Tripolite. Structural Materials and Clay Products—(a) Cement; (b) Clay and Clay Products; (c) Lime; (d) Sand and Gravel; (e) Stone and Slate.

(4) Industrial Reviews of the following: (a) The Gold Industry; (b) Copper-Gold-Silver Industry; (c) Nickel-Copper Industry; (d) Silver-Cobalt Industry; (d) Silver-Lead-Zinc Industry.

(5) Provincial Mineral Production Reports for: (a) Nova Scotia; (b) New Brunswick; (c) Quebec; (d) Ontario; (e) Manitoba; (f) Saskatchewan; (g) Alberta; (h) British Columbia; (i) Yukon.

(See also sections (6) (7) (8) and (9) under "Manufactures" below).

VII. Manufactures—

(1) General Summary, by Provinces and leading cities—(industrial groups classified by component materials, purpose, etc., of products—comparative statistics).

(2) Manufacture of Vegetable Products—Special Bulletins as follows: (a) Coffee and Spices; (b) Cocoa and Chocolate; (c) Fruit and Vegetable Preparation, including canning, evaporating and preserving; (d) Pickles, Sauces, Vinegar and Cider; (e) Flour and Cereal Mills. (See also under heading "Internal Trade"); (f) Bread and other Bakery Products; (g) Biscuits and Confectionery; (h) Macaroni and Vermicelli; (i) Liquors, Distilled; (j) Liquors, Malt; (k) Liquors, Vinous; (l) Rubber Goods and Rubber Boots and Shoes; (m) Starch and Glucose; (n) Sugar Refineries; (o) Tobacco Products; (p) Linseed Oil and Oil Cake.

(3) Animal Products and their Manufactures—Special Reports and Bulletins as follows: (a) Dairy Products; (b) Slaughtering and Meatpacking; (c) Fish and Fish Products; (d) Leather Tanneries; (e) Harness and Saddlery; (f) Leather Boots and Shoes; (g) Leather Goods; (h) Leather Gloves and Mitts. (See also under heading "Internal Trade").

(4) Textile and Allied Industries—General report. Special Bulletins as follows: (a) Cotton Textiles (Cloth, yarn, thread and waste); (b) Woollen Textiles Cloth yarn, blankets, felt and waste); (c) Silk Mills; (d) Clothing (Men's and women's factory and custom); (e) Hats, Caps and Furs; (f) Hosiery and Knit Goods; (g) Neckwear (Men's and women's) and Fancy Goods; (h) Oiled Clothing and Waterproofs; (i) Corsets; (j) Carpets, Rugs and Mats; (k) Cordage, Rope and Twine.

(5) Manufactures of Forestry Products—Special Reports as follows: (1) Lumber, Lath and Shingle Industry; (2) Pulp and Paper; (3) Manufactures of Wood and Paper Products: (a) Cooperage; (b) Planing Mills, Sash and Door Factories; (c) Printing, Bookbinding, Publishing, Lithographing and Engraving, Stereotyping and Electrotyping, Maps and Blue Prints; (d) Furniture; (e) Carriages, Wagons and Sleighs, and Materials thereof; (f) Canoes, Rowboats and Launches; (g) Coffins and Caskets; (h) Containers—Boxes and bags (paper); boxes and packing cases (wood); baskets and Crates; woodenware.

(6) Iron and Steel and Their Products—General Report. Special Bulletins as follows: (a) Pig Iron, Steel and Rolled Products; (b) Castings and Forgings; (c) Machinery; (d) Motor Vehicles and Accessories; (e) Railway Rolling Stock; (f) Heating and Ventilating Equipment; (g) Wire and Wire Goods; (h) Sheet Metal Products; (i) Hardware and Tools; (j) Miscellaneous Iron and Steel Products.

(N.B.—A Monthly Report on the Production of Iron and Steel is issued.)

(7) Manufactures of Non-Ferrous Metals—General report. Special Bulletins as follows: (a) Aluminium Products; (b) Brass and Copper Products; (c) Lead, Tin and Zinc Products; (d) Manufactures of Precious Metals; (e) Electrical Apparatus.

(8) Manufactures of Non-Metallic Minerals—General Report. Special Bulletins as follows: (a) Aerated Waters; (b) Asbestos and Allied Products; (c) Cement Products and Sand Lime Brick; (d) Coke and By-Products; (e) Glass (blown, cut, ornamental, etc.); (f) Illuminating and Fuel Gas; (g) Monumental and Ornamental Stone; (h) Petroleum Products; (i) Miscellaneous Manufactured Non-Metallic Mineral Products including; (a) Artificial Abrasives; (b) Abrasive Products; (c) Electrodes; (d) Fuel Briquettes; (e) Gypsum Products; (f) Mica Trimming.

(9) Chemical and Allied Products—General Report. Special Bulletins as follows: (a) Coal Tar and its Products; (b) Explosives, Ammunition, Fireworks and Matches; (c) Fertilizers; (d) Medicinal and Pharmaceutical Preparations; (e) Pigments, Paints and Varnishes; (f) Soap, Perfume, Cosmetics and Toilet Preparations; (g) Inks, Dyes and Colour Compounds; (h) Wood Distillation and Extracts.

(10) Miscellaneous Manufactures—Special Bulletins as follows: (a) Brooms and Brushes; (b) Musical Instruments (including pianos and organs. and phonographs.) (c) Musical Instrument Materials and Parts; (d) Buttons; (e) Trunks and Valises.

(11) Summary Reports on Groups of Industries, classified according to the use or purpose of their principal product as follows: (a) Food; (b) Clothing; (c) Drink and Tobacco; (d) Personal and Household Goods; (e) Books; (f) Equipment; (g) Materials for further manufacture.

N.B.—For Statistics of Water-Power and Central Electric Stations, see under heading "Public Utilities".

VIII. Construction.—(a) The Building and General Construction Industry; (b) Railway, Telephone and Telegraph—Construction, Maintenance of Way and Repairs; (c) Government and Municipal Construction; (d) The Bridgebuilding Industry; (e) The Shipbuilding Industry; (f) Building Permits—Monthly Record.

EXTERNAL TRADE (IMPORTS AND EXPORTS)—

(1) Annual Report of the Trade of Canada; (2) Preliminary Annual Report of the Trade of Canada; (3) Monthly Report of the Trade of Canada; (4) Monthly Bulletins on Trade Statistics as follows: General—(a) Abstract of Imports, Exports and Duty Collected by Latest Month, Accrued Period, and Latest 12 Months; (b) Summary of Trade by Countries and Principal Commodities, Latest 12 Months; (c) Summary of Trade with United Kingdom, Principal Commodities, Latest Month and 12 Months; (d) Summary of Trade with United States, Principal Commodities, Latest Month and 12 Months; (e) Abstract of Trade by Countries; (f) Summary of Trade by Groups, Latest Month, Accrued Period and Latest 12 Months. Special—(a) Summary, Exports Grain and Flour; (b) Detailed Exports, Grain and Flour; (c) Exports of Milk, Milk Products and Eggs; (d) Exports of Pulp Wood, Wood

Pulp and Paper (e) Exports of Rubber Goods and Insulated Wire; (f) Exports of Refined Sugar; (g) Exports of Gold and Silver (ores and silver bullion); (h) Exports of Preserved and Canned Fish; (i) Exports of Calcium Carbide; (j) Exports of Leather Footwear; (k) Exports of Vehicles of Iron (Automobiles, Bicycles, Railway Cars, etc.); (l) Imports of Rubber and Rubber Goods; (m) Imports of Preserved and Canned Fish; (n) Imports of Wood Pulp and Paper; (o) Imports of Narcotic Drugs; (p) Imports of Vehicles of Iron; (q) Imports of Grain and Grain Products; (r) The Tea Trade, Imports and Exports; (s) Imports of Footwear (except Rubber Goods); (t) Exports of Live Animals; (u) Exports of Meats; (v) Imports of Meats.

INTERNAL TRADE—

Grain—

(1) Annual Report on the Grain Trade of Canada; (2) Weekly Report on the Grain Movement; (3) Monthly Report on Mill Grind; (4) Special historical report on Flour Milling Industry 1605-1923.

Live Stock, etc.—

(1) Annual Report on Live Stock and Animal Products; (2) Monthly Report on Stocks in Cold Storage.

Prices Statistics—

(1) Annual and Monthly Reports on Wholesale and Retail Prices and Price Indexes (2) Prices of Securities.

Other—

Monthly Report of Visible Supply of Raw and Refined Sugar.

TRANSPORTATION, COMMUNICATIONS AND PUBLIC UTILITIES—

Railways and Tramways—

(1) Annual Report on Railway Statistics; (2) Annual Report on Electric Railway Statistics; (3) Monthly Bulletin on Railway Revenues, Expenses, Incomes and Operating Statistics; (4) Monthly Statement of Traffic of Railways; (5) Weekly Report of Carloads of Revenue Freight.

Express—

Annual Report on Express Statistics.

Telegraphs—

Annual Report on Telegraph Statistics.

Telephones—

Annual Report on Telephone Statistics.

Water Transportation—

(1) Annual Report on Canal Statistics; (2) Monthly Report on Canal Statistics; (3) Report of Census of Canadian Registered Ships.

Electric Stations—

Annual Report on Central Electric Stations in Canada.

FINANCE—

(1) Annual Report on Provincial Finance; (2) Annual Municipal Statistics of Cities of 10,000 population and over; (3) Annual Municipal Statistics of Urban Municipalities of 3,000 to 10,000 population; (4) Annual Municipal Statistics of Urban Municipalities of 1,000 to 3,000 population; (5) Special Bulletins on Assessed Valuations by Provinces, Municipal Bonded Indebtedness, etc.

JUSTICE—

Annual Report on Criminal Statistics.

EDUCATION—

(1) Annual Report on Education Statistics; (2) Annual Statistics of Business Colleges; (3) Annual Statistics of Private Elementary and Secondary Schools; (4) Statistics of Universities and Colleges; (5) Report on Playgrounds, etc., in Canada; (6) Historical Statistical Survey of Education in Canada; (7) Library Statistics of Canada, 1920-21; (8) Report of Conference on Education Statistics, held October 27-28, 1920.

GENERAL—

Employment.—Monthly and Annual Reports and Index Numbers by Localities and Industries.

Commercial Failures.—Monthly and Annual Reports.

The Canada Year Book, 1921, with frontispiece "The Arms of Canada," map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada since 1871, and maps and diagrams, pp. i-xxiii, 1-909.

Contents: I. The Constitution and Government of Canada, by S. A. Cudmore, B.A. (Tor.), M.A. (Oxon.), F.S.S., F. R. Econ. Soc., Editor Canada Year Book. II. Provincial and Local Government in Canada; Maritime Provinces, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia, by various writers. III. Chronological History of Canada. IV. Physical Characteristics of Canada, including special articles on Geology and Economic Minerals, Geology in Relation to Agriculture in Canada, the Flora of Canada, the Faunas of Canada, and Economic Geology of Canada, 1920-21. V. Area and Population. VI. Education. VII. Climate and Meteorology, including article on the Climate of Canada since Confederation. VIII. Production, including article on the Development of Agriculture in Canada. IX. Trade and Commerce. X. Transportation and Communications. XI. Labour, Wages and Prices. XII. Finance. XIII. Administration. XIV. Legislation and Principal Events of the Year, 1921. XV. Extracts from the Canada Gazette.

The Canada Year Book, 1922-23: The official statistical annual of the Physiography, Resources, History, Institutions and Social and Economic Conditions of the Dominion, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada, maps, diagrams, etc., pp. .

Contents: I. Physical Characteristics of Canada, (Geographical Features, Geology, Seismology, Flora, Faunas, Natural Resources, Climate and Meteorology). II. History and Chronology. III. The Constitution and General Government of Canada. IV. Provincial and Local Government in Canada. V. Parliamentary Representation in Canada. VI. Population (Census, Vital Statistics, Immigration). VII. Production, (General Survey of Production, Agriculture, Forestry, Fur Trade, Fisheries, Mining, Water Powers, Manufactures). VIII. Trade and Commerce, including External and Internal Trade. IX. Transportation and Communications (Steam Railways, Electric Railways, Motor Vehicles, Air Navigation, Canals, Shipping, Navigation, Telegraphs, Telephones, Express, Post Office). X. Labour, Wages and Prices. XI. Finance, Public and Private (Currency, Banking, Insurance, etc.). XII. Education. XIII. Miscellaneous Administration (Public Health, Hospitals and Charities, Justice, Public Lands, Public Defence, Public Works, Indian Administration, etc.) XIV. Sources of Statistical and other Information Relative to Canada. XV. Annual Register for 1922-23—(Dominion and Provincial Legislation, Principal Events, Obituary, Government Appointments, etc.).

ANNUAL REPORT

OF THE

DEPARTMENT OF THE INTERIOR

FOR THE

FISCAL YEAR ENDED MARCH 31, 1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to lay before Your Excellency the report of the transactions of the Department of the Interior for the fiscal year ended March 31, 1923.

Respectfully submitted,

CHARLES STEWART,
Minister of the Interior.

OTTAWA, September 1, 1923.

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REPORT

OF THE

DEPARTMENT OF THE INTERIOR

1922-23

Hon. CHARLES STEWART,
Minister of the Interior,
Ottawa.

SIR,—I have the honour to submit the 50th Annual Report of the Department of the Interior for the fiscal year ended March 31, 1923.

The total area of the three Prairie Provinces is 485,642,698 acres, of which 454,789,678 acres are land. Of this area 200,492,790 acres have been surveyed.

An approximate area of 854,880 acres was granted as homestead entries during 1922, bringing the total of lands so held to 54,164,100 acres; 25,153,300 acres are set aside for Canadian national parks and Dominion forest reserves, and the School Lands Endowment covers 9,335,400 acres. There were 1,212 soldier grant entries made during the year, aggregating approximately 193,920 acres. These entries showed a decline of 443 in number, but the decrease is natural and expected. The number of letters patent issued in 1922 was 6,973, covering an area of 1,782,959 acres. Of these 3,500 patents for 1,237,718 acres were for lands in the province of Saskatchewan.

During the year, 4,632 acres of school lands at an average price of $13.26 per acre were disposed of by public auction and private sale to the Soldier Settlement Board, the railway companies and for school sites.

Special features in regard to mineral resources were the rapid development of the rich silver-lead deposits of the Yukon; the activity in drilling for oil and natural gas in Alberta and other parts of the West; and the inauguration of a chemical industry in connection with the extraction of the soluble mineral salts found in sloughs and lakes in the western provinces.

There was a considerable increase in the total amount of timber cut on Dominion lands, this increase being general over the different kinds of timber logged and manufactured. There was an increase in the number of grazing leases and in the area grazed but the number of hay permits decreased slightly.

The most notable event in connection with Canadian national parks in the year was the completion of the Banff-Windermere highway. This is not only the first motor road across the central Rockies but it is also the last link in the six thousand mile system of international highways known as the "Grand Circle Tour." Construction and development work has been continued in all the parks to increase the facilities for travellers. The steady increase of visitors to the parks noted in previous years continues. Owing to the sanctuary afforded, all wild life in the parks is thriving and multiplying. The buffalo herd has increased to 6,780 and is now too large for the park area. In the same way,

because of the Migratory Birds Convention Act, a marked growth is reported in the numbers of the different species of birds.

The work of preserving and marking in a suitable manner national historical sites goes steadily forward. Of the one hundred, so far adjudged to be of national importance, twenty-seven have been acquired, the control of fourteen more has been secured, and protection and restoration work is being prosecuted as the circumstances demand.

The season of 1922 was very favourable from a forest-protection standpoint in Manitoba and Saskatchewan, but one of the worst experienced in Alberta and in the Railway Belt of British Columbia. Aeroplanes were again used effectively in this work. Progress was made in silviculture, both in removing dead and over-mature timber and in experimental work in tree planting and seeding on the reserves. Interest in the planting of trees for shelter-belts on prairie farms increases, and a development in the year was the setting out of a number of tree-belts to check soil-drifting. The Forest Products Laboratories recorded an increased demand for information concerning utilization, and the work of the Forest Research Division in investigating conditions of timber reproduction and growth was extended.

As a result of surveys conducted for many years several steps have been completed which will greatly assist in the development of irrigation. Eight large districts have now been organized. All the large completed irrigation projects had successful seasons in 1922 and more acreage was irrigated than ever before. The Reclamation Service has now under its supervision over 1,400 projects for the use of water, of which over 700 are irrigation schemes.

The annual analysis of water-power indicates that the total turbine installation in the Dominion is approximately 3,000,000 horse-power, representing an investment of $620,000,000. Two important installations in Western Canada were on the Winnipeg river and provide increased power for industries in the Greater Winnipeg district. The inclusion of all the provinces in the Hydrometric Survey of Canada and the work connected with the Water Resources Index-Inventory permits the collection and dissemination of data on a Dominion-wide basis.

The different forms of survey work, topographic, geodetic, and that of the international boundary were prosecuted on the usual lines. Work was done on the detailed topographic map of the western provinces, on land classification surveys, on interprovincial boundaries and on the extension of control lines to the Mackenzie valley. Precise levelling was done in five provinces, good progress was made in the extension of triangulation in Quebec, British Columbia, and the Maritime Provinces, and two geodetic base lines were run in British Columbia. The work done on the International Boundary completes that survey with the exception of certain parts between Quebec and the state of Maine.

During the year the field of operations of the Northwest Territories Branch was expanded to take in the administrative work (excepting mining) in the Yukon and the name changed to the Northwest Territories and Yukon Branch. Following a careful survey an area of 10,500 square miles was set aside as a preserve for the herd of 1,500 wood bison, the only remaining wild herd of bison in America. An inspection trip was made by officers of the department in the Canadian Government ship *Arctic* to the Canadian Arctic Archipelago. Two posts were established and means taken to improve the administration of the district.

The scientific operations of the Dominion Observatory at Ottawa and the Dominion Astrophysical Observatory at Victoria were continued and, in certain respects, extended.

The number of requests for information received by the Natural Resources Intelligence Service continues to increase. The correspondence came from all the British overseas dominions and from nearly every country in Europe. The demand from Great Britain and the United States was particularly large. In the year arrangements were made whereby geographic map work as well as economic mapping would be done in this branch. The photographic and photostat laboratories were kept exceptionally busy.

The total revenue of the department from all sources for 1922-23 was $4,255,441.78, as compared with $5,667,419.79 in 1921-22, $1,287,251.99 of this decrease being due to reduced sales of lands.

A brief synopsis of the work of the various branches is appended hereto, as well as the detailed statements submitted by the heads of branches.

Your obedient servant,

W. W. CORY,
Deputy Minister.

OTTAWA, August 31, 1923.

LANDS PATENTS

Letters Patent.—The number of letters patent issued during the last fiscal year was 6,973, covering an area of 1,782,959 acres, made up by provinces as follows:—

Province	Patents	Acres
Manitoba	1,200	177,208
Saskatchewan	3,053	1,237,718
Alberta	2,401	336,292
British Columbia	285	30,351
Yukon Territory	8	352
Northwest Territories	26	1,038
	6,973	1,782,959

Homestead Entries.—5,343 homestead entries were granted during the year, aggregating an approximate area of 854,880 acres, being a decrease of 2,006 in the number of homestead entries granted as compared with the previous year.

By provinces the entries were as follows:—Manitoba, 879; Saskatchewan, 2,104; Alberta, 2,207; British Columbia, 153.

There were 1,212 soldier grant entries made during the year, aggregating approximately 193,920 acres, made up by provinces as follows:—

	Number of entries	Acres
Manitoba	468	74,880
Saskatchewan	370	59,200
Alberta	328	52,480
British Columbia	46	7,360

Accounts and Revenue.—During the fiscal year $398,805.11, including $117,715.31 interest on deferred payments, was received on account of purchased homesteads, pre-emptions, and ordinary sales, being a decrease of $343,646.61, as compared with the payments received during the previous year.

The sum of $96,322.30 was received for entry fees, improvements, and sundries, making a total revenue for the fiscal year of $495,127.41.

Refunds were made amounting to $29,723.22, as follows:—

Value of improvements collected on cancelled homesteads	$25,151 68
Overpayments on sales; and of moneys paid on account of purchased homesteads and pre-emption sales, entries for which had been cancelled	4,571 54
	$29,723 22

School Lands

Owing to the prevailing financial depression, no general auction sales of school lands were held during the fiscal year. The following areas, however, were disposed of by public auction and by private sale to the Soldier Settlement Board, railway companies, and for school sites:—

Province	Area	Value	Average per acre
Manitoba	332·07 ac.	$ 4,274 14	$12 87
Saskatchewan	4,155·46 "	54,600 99	13 14
Alberta	145·11 "	2,390 88	16 47

The approximate net area disposed of down to the 31st March, 1923, after making deductions for cancelled sales, etc., was as follows:—

Province	Area	Value	Average per acre
Manitoba	661,011·49 ac.	$ 6,393,317 62	$ 9 67
Saskatchewan	1,435,819·77 "	24,308,374 85	16 93
Alberta	910,482 11 "	12,656,504 60	13 90

The revenues collected for the fiscal year (less principal moneys and expenditure) and paid over to the provinces were as follows: Manitoba, $24,041.72; Saskatchewan, $413,337.50; Alberta, $186,352.90.

The amounts of interest paid in the fiscal year on the investments of the several provinces were as follows: Manitoba, $281,750; Saskatchewan, $601,350; Alberta, $323,550.

Mining Lands

Mining rights, the property of the Crown, are no longer permanently alienated, but are disposed of by terminable leases only, and the revenue derived from this source during the year was $798,712.89. The rich silver-lead deposits of the Mayo-Keno district of the Yukon Territory are being rapidly developed, notwithstanding the remoteness of the region in which these deposits lie and the difficulties of transportation. During the winter months a large quantity of ore was mined and prepared for shipment to the Pacific smelters with the opening of navigation. Extensive development work has also been conducted during the year, and large additional ore bodies have been blocked out, thus materially increasing public confidence in this mining camp. Development of the mineral deposits of northern Manitoba is also progressing satisfactorily.

The quantity of coal mined during the year in Alberta and Saskatchewan was quite equal to past production, and the revenue derived from this source was $353,056.65. With this coal the domestic and industrial requirements of the western provinces are being supplied, and an effort is being made to place the coal on the markets of Ontario.

Both in the western provinces and in the Northwest Territories oil in considerable quantity has been obtained and prospecting operations, with a view to further discoveries, are being intensively prosecuted. An area of 1,750,391 acres is now held for this purpose under leases acquired under the regulations, and the revenue derived therefrom during the year was $306,688.82. The discovery of oil in quantity in the Kevin-Sunburst field of northern Montana, adjoining the International Boundary, has given a very considerable impetus to prospecting in southern Alberta. Natural gas in very large quantity has been discovered throughout Alberta, which is being used for domestic and industrial purposes. As the gas produced in the Turner Valley field of Alberta contains gasolene in commercial quantity, an absorption plant for the recovery

of this product has been installed and is in active operation, all the gasolene content being extracted before the gas is piped to Calgary for domestic consumption.

Interest is being manifested in the natural accumulations of soluble mineral salts comprising, for the most part, sodium and magnesium sulphate, which occur at or near the surface in certain sloughs and lakes in Saskatchewan and Alberta. Leases have been issued, and an industry has been established in connection with certain of these deposits.

Timber and Grazing Lands

The total revenue derived from timber, grazing and hay lands amounted to $886,064.37.

There were manufactured from licensed timber berths 254,042,349 feet board measure of lumber, in addition to large quantities of other material consisting of 28,816,186 laths, 327,696 railway ties, 1,774,987 lineal feet of mining timber, etc. Under permit there were manufactured 17,784,290 feet board measure of lumber, 3,947,571 laths, 354,615 railway ties, besides other various materials.

During the year 183 new timber berths were granted. The area covered by timber berths under license and permit is 6342.12 square miles.

There were 6,980 grazing leases in force, of which 639 were issued during the year. The grazing leases cover a total area of 6,342,644 acres. Hay permits to the number of 4,362 were taken out.

Canadian National Parks

The most notable event in the fiscal year 1922-23 in connection with the Canadian national parks was the completion of the Banff-Windermere highway across the central Rockies. This project was first formulated in 1911. Subsequent conferences between the provinces of British Columbia, Alberta and the Dominion Government resulted in the construction programme which has this year been completed. The highway has been laid out so as to afford the finest views along the route as well as the easiest grades. The road is not only the first motor road across the central Rockies but is also the last link in the great 6,000 mile system of highways known as the "Grand Circle Tour".

Considerable construction and development work has been done on the golf courses in the different parks. In the Rocky Mountains park new sewers were laid at different points and extensive draining, burning, and oiling were done in connection with mosquito control. A new line was made for the sulphur water supply from the upper hot springs to the Brett hospital and the Canadian Pacific Railway hotel. Work was done on the pipe line utilizing power from the lake Minnewanka dam for the benefit of Banff. New trails were completed at Jasper park and new bridges constructed at various points. Work was continued on the Edith Cavell highway and a certain amount of new road opened up, completing ten and one half miles of highway. The usual maintenance work was carried on in connection with the roads, bridges, trails and building in the different parks. In Waterton Lakes park a new road leading into the golf course was built and work was continued on the new entrance road to the townsite at Pass creek and on the road leading up Cameron creek several new trails were built. In Yoho park a new building was erected at Field, to house the fire equipment. New development work was carried on at Nakimu caves in Glacier park and a new trail was constructed to Pearly rock. A section of the mount Revelstoke auto road, abandoned by the contractors, was graded and now a length of fourteen miles is open on this road. In Elk Island park a survey was made of the line for the extension of the park.

The number of visitors to the national parks confirms the steady increase of previous years. From practically every park a greater volume of travel is reported as well as an increasing length of stay. With the opening of the first unit of the Canadian National Railway bungalow hotel at Jasper, Jasper national park may be said to have come for the first time into its own and the marked success of the first season indicates a promising future for this great and beautiful reservation. At Rocky Mountains park the increase in visitors is registered at 8,000, with more than 5,000 bathers at the Cave and Basin than at any previous season.

The fire damage in the parks during the year has been comparatively light, although the weather was dry and dangerous and great fires raged in different parts of the country.

Building plans in the various parks are now carefully examined by the architects connected with the branch with a view to establishing more suitable and effective architecture in the various settlements. New motor camping grounds were laid out at Banff. A new subdivision was laid out at Radium hot springs on the Banff-Windermere road and plans were made for the entrance archway buildings at this point. Plans for a new subdivision at Marble canyon and a comprehensive town plan for Canmore mining village were also made.

Owing to the sanctuary afforded, all wild life in the various parks continues to thrive and multiply. A census of the Buffalo herd taken on March 21, 1923, shows: Buffalo park, 6,780; Elk Island park, 281; Rocky Mountains park, 16; total, 7,077. The census for March 21, 1922, was 6,315. This shows an increase for the year of 762. Two hundred and sixty-four surplus bull buffalo were slaughtered during the year. This had become necessary owing to the limited capacity of Buffalo park to support the increased herd. The antelope in Nemiskam reserve continue to thrive. There are now 130 head, an increase of 30 during the past year.

In view of the opening of the first motor road across the central Rockies a campaign of publicity was organized early in the present year and as a result about 50,000 pamphlets were distributed to motorists and others and a large number of prints and slides were circulated. Illustrated lectures on the work of the parks were given by the official lecturer in the different provinces and lecture notes accompanied by suitable slides were also distributed.

As a result of the enforcement of the Migratory Birds Convention Act a marked increase is reported in the valuable forms of bird life. Many inspections were made during the year and areas recommended for reservation as bird sanctuaries. There were distributed during the year 89,250 pamphlets on bird protection, and members of the staff gave 144 lectures during the year, illustrated by slides and motion pictures.

Of the 700 historic sites to which the attention of the department has been called, about 100 have been judged by the Historic Sites and Monuments Board to be of national importance and of these 27 have been acquired by patent and the virtual control of 14 others secured. Throughout the year 18 sites have been suitably marked for historical memorial purposes, and restoration work has been prosecuted on other established sites.

Forestry

Continued business depression has had its effect on Forestry Branch revenues, though the decrease from 1921-22 has been small, amounting only to $2,405, and the revenue of the branch was still somewhat in advance of that for 1920-21. The number of cattle grazed on the reserves decreased about 10,000 head. On the other hand, the number of grazing permits increased by some 10 per cent, indication thus being given of an appreciable increase in the number

of individuals who recognize the advantages of the forest reserves for grazing purposes. Timber revenues show a very slight increase.

The season of 1922 was very favourable from a forest-protection standpoint in Manitoba and Saskatchewan. Unfortunately, however, the season was perhaps the worst ever experienced in Alberta and in the Railway Belt of British Columbia. The use of aeroplanes for fire-patrol work in protecting the forests from fire was continued in Alberta and Manitoba, and proved satisfactory.

The timber revenue of the branch was practically stationary, although the different items of that revenue show considerable variation. In Alberta the cut of saw-timber increased about one-eighth. In Saskatchewan the cut of cordwood was the largest on record, and a keen demand was experienced for railway ties. In addition to the revenue derived, the forests stand to gain by the removal of fire-killed and mature timber to which the cutting was as far as possible confined.

The planting on the forest reserves covered some forty-eight acres. Survey and reconnaissance work on forest reserves was continued.

Increasing use is being made of the reserves for summer-resort purposes. A small fish hatchery has been installed near Paul lake, British Columbia, with a view to improving the fishing on the British Columbia reserves. The herd of elk in the Riding Mountain forest reserve is now the largest in Canada.

The interest in the work of tree planting on the prairie farms shows sustained increase. The total number of trees sent out from the nurseries at Indian Head and Sutherland is now over seventy millions, including those to be sent out this spring. A new and rapidly enlarging feature of this work is the establishment of tree-belts to check soil-drifting.

The Forest Products Laboratories report a constantly increasing number of requests for technical information, and generally the year has seen a larger amount of research work than any previous year.

The Forest Research Division is engaged largely in investigations of the problem of handling cut-over and burned-over areas. Investigations carried on by this division have shown results in improved methods for estimating the contents of stands of white pine, spruce (black, white, and red), and balsam fir.

The Division of Forest Resources and Statistics assisted the Ontario Department of Lands and Forests in its survey of Ontario forests, and is at work on its survey of the wood-using industries of the various provinces.

Reclamation

Irrigation.—Since the passing of the North West Irrigation Act in 1894, the Department of the Interior has been carrying on extensive investigations of water supply and surveys of irrigable land. The Dominion Government controls all surface water in the Prairie Provinces, and it is the duty of the department to determine how much water is available, and to dispose of it in the most economical manner.

As a result of surveys conducted for many years and now finished, it has been possible to complete several steps which will greatly assist in the development of irrigation. Among these are an amendment to the Irrigation Act, which empowers the Governor in Council to reserve unappropriated water and to allocate it among applicants as he may deem best in the public interest, and an order issued by the International Joint Commission clearly defining Canada's share of the flow of such international streams as the St. Mary and Milk rivers. To still further conserve the limited water supply, investigations have been carried on for several years past on experimental stations at several points

to determine the amount of water required by various crops in different soils to produce the best results, and demonstrations have been conducted at many places for the purpose of instructing the farmers in economical methods of using water.

The increased demand for irrigation in the last few years has resulted in the enactment of greatly improved provincial irrigation district laws, and eight large districts have now been organized under the Alberta Act. Construction work is complete on three of these, two more projects are under construction, and others appear likely to start active work in 1923.

During the year a large number of applications for water rights for domestic, municipal, industrial, and other purposes, as well as irrigation, has been received, and the Reclamation Service has now under its supervision over 1,400 projects for the use of water, of which over 700 are irrigation schemes. All the large completed irrigation projects had successful seasons in 1922 and more acreage was irrigated than ever before.

The flow of the St. Mary and Milk rivers was measured and apportioned during 1922 by engineers of the Canadian and United States Reclamation Services working in co-operation as in previous years.

Drainage.—During the year there was considerably less work done on the investigation of large projects by the Drainage Division of the Reclamation Service than in previous years. The investigation of the Athabaska drainage project in northern Alberta was completed and plans for the reclamation of a district comprising about 46,000 acres of swamp lands prepared. Further surveys and investigations of the Carrot River Triangle in Saskatchewan and Manitoba were carried on, but another season will be required to complete this work which involves the reclamation of upwards of 1,400 square miles of swamp lands.

Since the organization of the Drainage Division, 34 large drainage projects have been investigated, of which 13 aggregating 269,000 acres have been recommended as suitable for governmental reclamation.

The drainage of Waterhen lake, near Kinistino, Sask., was undertaken as an experiment in the reclamation of Crown lands. The work was commenced in 1921 and all the main canals and laterals completed in 1922. A large portion of the lake is now ready for cultivation. There still remain to be constructed a number of small laterals and minor structures, which it is expected will be finished during 1923.

Twenty-three applications were received during the year for permission to construct small projects. These were investigated, and where favourable consideration was given, the necessary surveys were made and plans prepared. Fifty-four inspections were made of other private projects under development and favourable progress and successful results of the cultivation of the reclaimed areas reported.

Water Power

The annual analysis made by the Dominion Water Power Branch indicates that the total turbine installation in the Dominion is approximately 3,000,000 horse-power. The investment represented by this installation exceeds $620,000,000 and stamps water-power utilization as one of the great Canadian industries.

The installation during the past year was approximately a quarter of a million horse-power, while a further 200,000 horse-power installed in 1921 was placed in operation during 1922.

The new installation was distributed amongst sixteen power stations ranging from 110,000 horse-power at Chippawa, Ontario, to 84 horse-power at Tupper

Lake, N.S. With the exception of Alberta, Saskatchewan, and Prince Edward Island, each province was represented in the total.

The installations of most interest to the department are perhaps those carried out on the Winnipeg river by the Manitoba Power Company and the city of Winnipeg, respectively. The Manitoba Power Company, which is constructing a new hydro-electric development at Great Falls installed a 28,000 horse-power unit during 1922 and by the close of the fiscal year had completed a second, making the total 56,000 horse-power.

The city of Winnipeg installed a 6,900 horse-power unit at its Pointe du Bois station, making its total 67,100 horse-power. Both these developments are operating under concessions from, and under the supervision of, this department.

There appears to be every prospect of a steady advance in Canadian water-power industry since projects, either under construction or actively projected at the present time, will provide ultimately an increase of nearly 1,000,000 horse-power; in addition there are many other projects under study.

The Hydrometric Survey of Canada is now operating on a Dominion-wide basis and the uniform and systematic collection of basic water resources data and their dissemination from, and availability through, a central organization is proving of increasing value to the water-power industry. The Water Resources Index-Inventory work continues with satisfactory results and the inventory makes it possible to place Government officials, Dominion or Provincial, engineers, and the general public interested therein in immediate touch with the most recent and authentic information obtainable.

The shortage and advanced price of all varieties of coal during the past winter continues to keep the question of fuel supply for the Dominion constantly to the forefront. While hydro-electricity cannot be expected to entirely solve this question, it can and has greatly ameliorated conditions. This form of energy has practically eliminated fuel from the central station industry so that but little coal is now consumed for light and power, and water power is helping to restrict the use of coal to its most efficient use, namely for heating. Railway coal consumption remains high but there is reason to believe that before long Canadian railroads will begin to electrify divisions where the density of traffic permits. The extent of water-power's contribution to the solution of the fuel problem may be estimated by the fact that present development is equivalent to an annual consumption of 26,700,000 tons of coal and to an outlay of over a quarter of a billion dollars, much of which would be required to pay for imports and would therefore constitute a heavy burden on the wrong side of the trade balance.

Surveys

TOPOGRAPHICAL SURVEY OF CANADA

Details of the work of the Topographical Survey of Canada are presented in complete form in the annual report of the branch, which is issued as a separate publication of the department; the following is a brief summary of what was accomplished during the year.

Thirty-six parties, as compared with thirty-seven during the season of 1921-22, were engaged on field work. Of this number, one was employed in Manitoba, seven in Saskatchewan, seven in Alberta, three in the Railway Belt and the Peace River block of British Columbia, twelve partly in one province and partly in another, and six in the Northwest Territories.

Topographical Surveys.—In order to expedite the publication of a detailed topographical map of the western provinces, the number of parties assigned to

surveys for the revision of sheets of the sectional map of Canada was increased to six, two more than were employed on this work during the previous season. Five of these parties were distributed throughout the settled portions of Manitoba, Saskatchewan, and Alberta, while one operated in the Railway Belt of British Columbia. Each was successful in obtaining the required information for revising one sheet, which covers approximately 4,300 square miles. Since the inception of these surveys in 1919, twenty-three sheets, covering a total area of about 100,000 square miles, have been fully revised and twelve of these have been issued.

In the compilation of these maps, the information secured by the survey parties is co-ordinated with that obtainable from all other available sources, and the final maps are thus made as complete and comprehensive as possible.

One party, employing photo-topographical methods, surveyed an area of 650 square miles in the south part of Kootenay park and vicinity. A preliminary edition of the map of Rocky Mountains park was recently issued, and the compilation of a more detailed map of the same area has been completed.

Another party completed a plane-table survey of Cypress Hills forest reserve. This survey was undertaken in 1921 at the request of the Forestry Branch but could not be completed in one season.

Land Classification Surveys.—There is still a large acreage of vacant Crown lands in the western provinces. The maps, plans, and reports which are compiled in this branch from information obtained by survey parties assigned to the work of investigating and examining these lands are intended to assist in the early development of many areas which have hitherto escaped the notice of land-seekers. These maps and supplementary maps showing the location and extent of the main soil types are available for free distribution.

During the past season, one party operated in the district north of Winnipeg, one was employed southeast of Prince Albert, two in the district north and northwest of Edmonton, and one in the Peace River block of British Columbia. These investigations, which covered 4,225,280 acres, together with those of previous years, bring the total area of lands examined to approximately 24,725,000 acres.

As a result of the season's work, five new maps were compiled. In addition, three maps, showing the results of previous surveys, were revised. Five volumes of township plans in colours, covering two hundred and twenty-five townships, were also compiled.

Northern Control and Settlement Surveys.—Surveys designed to assist in the development of the natural resources of Mackenzie River district, Northwest Territories, were continued by six parties. The most urgent part of this work, consisting of the establishment of a line of control along more than 4,000 miles of shoreline, had been carried out in 1921, but the number of parties available was not sufficient to permit of the completion of all the necessary surveys in the limited time between the opening and closing of navigation in that district.

The survey of Mackenzie river had been carried forward from Great Slave lake for a distance of 110 miles below Norman. It was resumed at this point and continued to the delta of the river. The party engaged on this survey remained in the district throughout the winter in order to complete the traverse to and beyond Aklavik during the season of 1923.

Three parties, in addition to conducting some surveys in the vicinity of lake Athabaska, co-operated on the completion of the traverse of Great Slave lake and its numerous islands. The total length of shoreline traversed by all four parties was approximately 5,000 miles.

The maps prepared to show the 1921 surveys were issued in time for the opening of navigation in the spring of 1922 and have proved very useful to the navigation companies.

In order to provide more accurate control for these surveys and to extend the Dominion lands system of survey into the Northwest Territories, the Sixth meridian was produced northerly from its previous termination at the north boundary of Alberta to connect with the traverse of Mackenzie river at Providence. One party was required for this work and another on additional surveys of settlements at several important points along Slave and Mackenzie rivers and Great Slave lake.

At the request of the Geological Survey, Department of Mines, a stadia control traverse was carried along the shores of the lakes and connecting streams from Amisk lake to Reindeer lake, in northern Saskatchewan. The purpose of the survey, which extended over a distance of nearly 1,000 miles, is to provide an accurate basis for topographical mapping and the extension of geological investigations throughout this district.

Interprovincial Boundary Surveys.—The survey of the boundary between Ontario and Manitoba was continued due north from the point reached in 1921 to the angle where the boundary turns northeasterly towards Hudson bay. Special survey monuments were erected along this line, showing on brass plates on the two opposite faces the names of the adjoining provinces. The boundary is now established well north of the known mining area, and it is not intended to continue the survey farther at the present time as no important administrative functions are likely to be affected in the near future by the fact that there is still a long portion of this boundary not yet surveyed.

The delimitation of the boundary between Alberta and British Columbia was continued. One party, employing photo-topographical methods, surveyed a portion of the watershed northerly from Yellowhead pass, while another party was engaged on the production of the 120th meridian southerly from Wapiti river to the Rocky mountains.

Levels.—Four parties were employed exclusively on the extension of the level system. Levels were run also in connection with the production of the Sixth meridian and the survey of interprovincial boundaries. In all, 1,585 miles of line were levelled, bringing the total to date for all classes of levelling to approximately 36,000 miles.

Stadia and Miscellaneous Surveys.—Four parties were organized for the stadia survey of water areas. As these parties are equally well adapted for conducting miscellaneous surveys, three of them carried out instructions for urgent work of this nature in the respective districts to which they were assigned. The subdivision of small areas, resurveys, retracements, and alterations and additions to settlements and townsites, at widely separated points throughout the West, necessitated the employment of four travelling parties, each composed of a surveyor and an assistant or engineering helper.

Distribution of Maps, Plans and Surveys Information.—In addition to the particular maps already mentioned there was a steady demand for all maps, plans, and publications of the branch, 26,765 copies of township plans and 30,916 copies of various maps being distributed.

The Admiralty, Ordnance, and Railway Lands Branch of the department was also furnished with a new computation of the areas of railway land subsidies, and numerous inquiries from other branches as to surveys, monuments, areas, land classification, etc., were dealt with.

GEODETIC SURVEY OF CANADA

A report in detail of the operations of the Geodetic Survey of Canada is issued as a separate publication of the department; the following is a brief synopsis of what has been accomplished during the fiscal year 1922-23.

As in the past the activities of the Survey have been mainly for the purpose of providing vertical and horizontal control for the more detailed survey work of other engineering and surveying organizations. The work is dealt with under the following heads: precise levelling, triangulation, base line measurements, and geodetic astronomy.

Precise Levelling.—This work was carried on by five parties during the summer months in the provinces of Nova Scotia, New Bunswick, Ontario, Saskatchewan, Alberta, and British Columbia. At the request of the civic authorities of Hamilton, Ont., and Quebec, Que., a special series of bench-marks of high precision was established in these two cities, the work being carried out under a co-operative plan whereby the Geodetic Survey furnishes the engineer-in-charge and provides the necessary instruments, while the city benefited bears all other expenses. The regular operations in the six provinces mentioned above consisted in the extension of the trunk lines and certain branch lines of precise levelling into districts at present not served with such control. During the winter of 1922-23 precise levels were run on the ice of the Winnipeg river from its source at Kenora, Ont., to its mouth at Fort Alexander, Man., and up the English river to a point somewhat beyond lac Seul (some 450 miles in all); this being primarily for the benefit of the Dominion Water Power Branch and the Lake of the Woods Control Board.

Triangulation.—Good progress was made in the extension of primary and secondary triangulation. Quebec, British Columbia, and the Maritime Provinces were the scenes of the most extensive operations. Two noteworthy features in the eastern triangulation were the completion of the connection between the Magdalen islands and the mainland and the discovery of the feasibility of a connection to cape Ray, Newfoundland. These features are of special interest in connection with hydrographic surveys and chart revision. Secondary triangulation on Vancouver island and along the British Columbia-Alberta boundary from the Yellowhead pass northerly were carried out during the season, also the main primary scheme along the coast was materially advanced. When it is completed there will be an arc of combined United States and Canadian triangulation extending along the coast from the southern United States to Skagway, Alaska. Substantial progress was made in the joint triangulation along the International Boundary between Western Canada and the United States. The section of this triangulation assigned as Canada's share extends along the southern boundaries of Manitoba and Saskatchewan, and here four parties operated, one each on reconnaissance, tower building, station preparation, and direction measurement. On the latter party a saving of some twenty dollars per day was effected through an innovation by which the electric signal lamps, instead of being manually operated, were turned on and off at the required hours by means of automatic time-switches. In Ontario a reconnaissance was started on the upper Ottawa river which will have important developments in the future, and at the request of the Public Works Department a secondary triangulation scheme embracing Port Arthur and Fort William harbours was laid down and completed.

Base Lines.—Two geodetic base lines were measured during the fiscal year, one on Vancouver island and one at the Yellowhead pass. In place of being measured on land the latter line was measured in midwinter on the frozen surface of Yellowhead lake. This procedure was a departure from the usual

practice and was suggested by the rugged character of the country. By utilizing a lake surface as was done in this instance a better opportunity is afforded to secure a location which will fit in with the triangulation scheme and the expense of clearing out the oft-times heavy timber is entirely obviated. Provided the proper precautions are taken to ensure the high standard of accuracy demanded it is felt that this method of measuring geodetic bases has great possibilities for the future and will in many cases enable a base line to be inserted in districts where it would otherwise be impossible.

Geodetic Astronomy.—Two Laplace stations (combined triangulation, longitude, and azimuth) were occupied, one near the city of Vancouver and the other on the coast of Vancouver island. These gave needed control to the British Columbia triangulation.

INTERNATIONAL BOUNDARY

All the surveying operations in connection with the demarcation of the International Boundary between Canada and the United States from the Arctic ocean to the Pacific coast and across the continent to the Atlantic have been completed, with the exception of the definition of the short courses of the boundary along the southwest branch of the St. John river, between Quebec and the state of Maine, and the execution of some topography on Campobello and Deer islands in Passamaquoddy bay and on the point of the mainland near St. Andrews.

In 1921 the engineers of the commission made a joint inspection of the boundary line along the 49th parallel through British Columbia from the gulf of Georgia to the summit of the Rocky mountains. They found that on many stretches of the boundary and particularly across the delta of the Fraser river, the vistas which had been opened seventeen years ago, had so grown over that there was no indication of the boundary line, and the Customs and Immigration officers strongly urged that the vistas should be re-opened particularly in the vicinity of the customs houses.

In co-operation with the United States section of the commission a joint party cleared out the vista across point Roberts and from the east shore of Boundary bay across the Fraser delta to the Columbia valley at the foot of the Coast range—a distance of forty miles.

A number of monuments, which had been disturbed by road-makers, were reset and an additional monument erected at the crossing of the international highway east of Blaine. The line across the valleys of the Similkameen, Kettle and Kootenay rivers, and across the Tobacco plains was also re-opened.

Inspection proved that the high water of recent years in the Lake of the Woods had washed out the reference marks planted in 1914 near the mouth of the Rainy river. These were relocated and repaired.

The topography of the islands and mainland near St. Andrews, N.B., was completed and the referencing of the boundary from St. Stephens, N.B., to the island at Milltown was accomplished in co-operation with the United States section of the commission.

An inspection made last season showed that on the Quebec-Maine boundary the monuments placed in 1912 had greatly deteriorated. It will be necessary to reset the bases of at least seventy monuments between Eastcourt and the head of St. John river.

During the year forty-two map sheets were engraved, printed and signed.

Northwest Territories and Yukon

Owing to the similarity of administrative problems, particularly in the matter of resources and wild life, in the Northwest Territories and the Yukon,

the administration of the North West Game Act and the natural resources in the Yukon, with the exception of mining, has been transferred to this branch which is now know as the North West Territories and Yukon Branch.

The portable saw-mill taken over from the Department of Indian Affairs was successfully operated near Fort Smith, N.W.T., cutting 500,000 feet of lumber. It was found necessary for the department to manufacture this lumber in order that the residents might be supplied and thus assist in fostering and encouraging mining and other industries in that remote territory.

A reserve of 10,500 square miles was created as a Wood Buffalo park, and includes the northern and southern ranges of the only herd of wild bison on the continent. Regulations for the preservation of the bison, caribou, and fur bearers are being enforced by a capable warden service under the District Agent at Fort Smith, N.W.T.

Hospitals were supplied with furniture and equipment transferred from the Department of Soldiers' Civil Re-establishment. The grants for treatment and maintenance of patients, both white and half-breed, have been substantially increased.

Prospecting and drilling for oil still continues in the Mackenzie district. Although several holes have been sunk, no new wells have been brought in.

The C.G.S. *Arctic* sailed north, establishing police posts, customs houses and post offices, on islands in the Arctic archipelago. Scientific data were secured in connection with survey work both on land and from the air.

A general survey of the reindeer experiment was made. While the herd at Lobster bay was found to be healthy, the increase has been below normal, and the costs of maintenance excessive. The offer made some years ago by the Anticosti Island authorities, to carry on the experiment, on a basis which will avoid further expense by the Department, has been accepted and the herd will be moved in August, 1923.

Special investigations were made in the Yukon, not only respecting this department, but on behalf of the Departments of Justice, Post Office, and Public Works. The settlements along the Mackenzie river from Fort Smith to Aklavik were inspected. The water frontage at Fort Smith was made more accessible by additional roadways. The area in the neighbourhood of the Wood Buffalo park was investigated and provision made for the protection of the habitat of these wild animals.

Dominion Observatory, Ottawa

Observations with the meridian circle were obtained on 154 nights. The programme of observations on the list of 3,162 stars has been completed, and preparations are in progress for beginning a programme of fundamental observations which will probably occupy several years. A redetermination of pivot errors has been made during the year; these were last measured in 1910; preliminary computations show a small but measurable change in the form of the pivots.

Field observations for latitude and longitude, in continuation of the previous season's work, were carried out at four stations in the Mackenzie River basin, the most northerly station being within the Arctic circle. The longitudes were determined by wireless telegraphy, time signals from several United States stations being received simultaneously at the field stations and at Ottawa; the longitudes are thus based strictly upon Ottawa, irrespective of the time signals employed.

The time service has been maintained as in previous years. Eleven secondary master clocks are synchronized continuously; these in turn control about 575 clocks and dials of various kinds, including the tower clocks at the Obser-

vatory and the city post office. Relays beating seconds are maintained in three offices in the city, one clock is synchronized every hour, time signals are sent out by telegraph and telephone and the time is recorded on the various seismographs at the observatory. A new Riefler clock was received and installed during the year; comparisons are made twice daily between the two Riefler sidereal clocks, which affords a very competent check on the rates of both and enables determinations of time to be made with much greater accuracy than heretofore.

A time comparison is made daily with Washington and Paris, by means of the wireless time signals sent out by Annapolis and Lafayette. This is in co-operation with the International Time Commission, in connection with the investigation of unexplained discrepancies in meridian observations. Heretofore it has frequently been impossible, in the height of summer, to receive the signals from Lafayette on account of static disturbances. With a view to ameliorating this condition a new and higher aerial was erected during the past winter, and it is hoped that it will be possible now to receive these signals on practically every day throughout the year. Acknowledgement is due to the Marine Department for the gift to the Observatory of the two masts required for this aerial and for their very kind co-operation and assistance in its erection.

The 15-inch equatorial telescope has been utilized as heretofore for obtaining radial velocities of stars, a total of 1,239 spectrograms having been made with exposures varying from 30 to 70 minutes; 90 direct photographs of star fields were also obtained with the short-focus camera attached to the equatorial. Detailed studies of stars of the Beta Canis Majoris type have been continued; among the stars studied are β Cephei, o Scorpii, δ Aquilæ, τ Cygni, γ Ursæ Minoris, θ Ophiuchi, δ Ceti and others. A remarkable analogy has been found between stars of this type and the Cepheid variables, and these investigations give promise of having an important effect on the accepted ideas of the dimensions of the universe.

The direct photographs mentioned above are intended for collecting data on variable stars. A large number of these have now been secured, most of them incidentally with the radial velocity dimensions. Work has been begun on the comparison of these for deducing the light curves of the many variable stars appearing on them.

Some work was also done in collaboration with the Marine Department on the absorption of haze, clouds, and smoke for radiation of different wave-lengths; this was found desirable in connection with the question of the type of illumination used in lighthouses.

The equatorial has, as usual, been available to the public every clear Saturday evening, with an officer in charge to explain the objects shown.

With the cœlostat 1053 solar spectrograms have been secured, each comprising nine strips of spectrum, using various combinations of solar spectra from center, limb, and midway positions, with comparison spectra of electric arc and iodine. Measurements and computations of 640 spectrograms have been completed, comprising investigations of solar rotation, solar distance, solar wave-lengths, blended spectra, errors of measurement, and tests of the new spectrocomparator. A pair of arcs has been constructed for use at pressures below atmospheric pressure, and these will be used with the standard arcs in making simultaneous observations of solar spectra. Additions to the new spectrocomparator are in progress, to allow of reading the micrometer head in the eyepiece without removing the eye from the ocular.

The work of the magnetic survey was carried out in much the same manner is in previous years. Two parties were engaged in field work for approximately

six months. The work was carried on in localities outside the territory heretofore covered by the Observatory. Certain stations of the Meteorological Service and the Carnegie Institution of Washington were occupied from which valuable secular change data will doubtless result. One party occupied a series of stations at intervals approximating 30 miles along the Peace river and Slave river from Fort St. John to Resolution, and along the Athabaska river from McMurray to Chipewyan; the other worked along the Hudson Bay railway from The Pas to within 90 miles of York Factory, and from Cumberland House to Neultin lake by way of Reindeer lake. In all seventy-three stations were occupied, and at each station the three magnetic elements were determined. The office work, which occupied the remainder of the year, was confined exclusively to the reduction of field observations.

The gravity work was continued on the same lines as last year, the stations occupied being the same as those at which observations for latitude and longitude were made. The computations for these observations were carried through and the reductions for topography and isostatic compensation for the nine stations occupied during the last two seasons have been practically completed. A new Eötvös torsion balance was received during the year; this instrument is designed to investigate small variations in the direction and force of gravity over restricted areas for the purpose of determining the distributions of subterranean density.

During the year 175 earthquakes were recorded. Those which were recorded with sufficient clearness to warrant definite readings were reported through the press. All were reported by monthly bulletins to the seismological stations on our mailing list, 230 in number. The seismographs have been kept in continuous operation during the year.

The seismologist visited Saskatoon to set up the seismograph in the University of Saskatchewan and also attended the seismological meetings at the Boston session of the American Association. After the Boston meeting the seismograph installations at Harvard, Georgetown, and Washington were visited and much valuable information gained thereby.

Milne-Shaw seismograph No. 23, the second of the pair ordered some time ago, was received and considerable work has been done in getting research work with it under way.

The Observatory has issued and distributed seven publications during the course of the year, besides a number of articles in astronomical periodicals and papers presented at scientific meetings.

There have been three international astronomical meetings which were attended by the director or members of the staff; the most important of these was the meeting at Rome of the International Astronomical Union, which was attended by the director as delegate for Canada. The Union covered thirty-two committees of the astronomical field and its meetings were spread over ten days; it was very well represented by delegates of the allied countries; the Observatory was represented on every committee that dealt with work on which the Observatory is engaged.

The director also represented the Observatory and Canada at the 700th anniversary of the celebration of the founding of the University of Padua, also the closing sessions of the International Seismological Association at Strasbourg, when its affairs were wound up to be continued, however, under the ægis of the newly formed International Union of Geodesy and Geophysics. Two short addresses were given by the director in London before the Royal Astronomical Society, while later he visited and gathered scientific data at the observatories at Potsdam, Leipzig, Jena, Strasbourg, Bergedorf, Zurich, Florence, Brussels, Cambridge, London, and at the recently opened Norman Lockyer Observatory at Sidmouth.

The visit to Europe by the director covering the preceding meetings and observatories was most profitable, and at the same time showed that Canada occupies now a prominent position in astronomic work and research.

The director also represented the divisions of seismology and terrestrial magnetism at the meeting of the International Union of Geodesy and Geophysics, which was held at Rome at the same time.

Dominion Astrophysical Observatory, Victoria, British Columbia

This is the fifth annual report of the work of this institution in which actual observations commenced on May 6, 1918. The details of the work are presented in complete form in the publications of the Observatory of which eight numbers were published during the year, the total number to date being thirty-nine. The last number of Vol. I, No. 30, was not published until November but carried with it the index and title page so that the first volume is now complete.

The observing weather during the past year has again been much poorer than the first two years. In the year April 1, 1922, to March 31, 1923, 1,378 star spectra were photographed, the total number to date being 8,767. The total number of nights on which the dome was opened was 205 as compared with 224 the previous year.

The work of the year has been more varied than in previous years chiefly owing to the completion last year of the first radial velocity programme, and to progress and practical completion of some subsidiary programmes then undertaken.

The largest of these undertakings, the determination of the absolute magnitude and spectroscopic parallax of over 400 stars, whose radial velocity has already been obtained here is making good progress. It has been considerably delayed by the absence for five months of one of the two astronomers engaged in it on the Australian Eclipse Expedition but the curves connecting line intensity with absolute magnitude are becoming better defined, a number of new lines showing the relation have been discovered and several new and interesting deductions have been obtained. Practically all the observations required for this programme have been obtained and the discussion should be completed and published in three or four months. As an auxiliary to this programme the radial velocity of 125 stars, obtained from measures of about 600 spectra, have been determined and the results are now in press. An additional programme of 350 of the brighter A to M-type stars has been prepared and these stars will be observed for absolute magnitude on the nights of poor seeing unsuitable for the fainter stars.

The investigation of the spectra of all the O-type stars within reach has made good progress but some further observations which it is hoped to complete in the autumn are still required. In the progress about 30 spectroscopic binaries have been discovered, about two-thirds of those measured, and some very interesting information about group motions and about the behaviour of the H and K lines of calcium has been obtained. In the course of this work the extraordinary system 6°1309, about four times more massive than any previously known, was discovered and investigated. The interesting character of the results was given world-wide newspaper publicity and directed widespread attention to the observatory. A very interesting variable spectrum was also discovered and is now being investigated.

The orbits of five spectroscopic binaries have been completed and are either published or in press and in several others the observation and measurement is well advanced so that the final orbit can soon be obtained. Owing to the press of other work not many observations on the new general programme of 1,500 stars prepared last year have yet been made but it was deemed preferable to first complete the other work.

Along the purely astrophysical side of the work two important contributions have been made. The first Vol. 1, No. 30, "The Spectra of Three O-Type Stars" referred to last year, was received from the printer last October and was at once distributed. The principal results obtained were the discovery of the enhanced helium components to the Balmer lines, the accurate measurement of their wave-lengths with the resulting important calculation and deduction that the structure and dimensions of the atom are the same on the most distant and hottest stars as on the earth. An extension of Saha's theory of ionization including the abundance of the elements was applied to these stars and their temperatures accurately determined. A proposed improvement in their spectral classification was suggested and other valuable data were contained in the paper, which has created much favourable comment. The preliminary investigation of the intensity distribution in laboratory solar and stellar spectra by the wedge method mentioned last year has been completed and the final results and discussion are nearly ready for the press. This paper and method represent, it is believed, a distinct addition to knowledge along these lines and give improved values of solar and stellar temperatures.

A member of the staff took part in the Canadian Eclipse Expedition to Australia and successful plates were obtained for the investigation of the relativity deflection and also a valuable set of plates for the measurement of the polarization of the coronal light and its law of decrease at increasing distances from the sun. The laborious measurement and discussion of the Einstein plates has been completed here and the synopsis of the final results which are confirmatory of the deflection, has been announced. The measures and computation will shortly be prepared for publication and the discussion of the polarization of the corona undertaken as soon as possible.

The telescope has remained unchanged and has given the same satisfactory performance as heretofore. Two new camera lenses for the spectrograph, a medium focus to give a flat field with three prism dispersion and a short focus giving small dispersion to use with faint stars have been obtained and tested giving fine definition and will be used in the regular work as required. Some slight changes were made in the ultra-violet spectrograph and a number of spectrograms obtained but the pressure of other work has prevented its regular use in the past year. It is hoped shortly to obtain spectra in the ultra-violet of a considerable number of typical early type stars in order to investigate this little known region in stellar spectra.

The privilege of viewing celestial objects through the telescope on Saturday nights is being continued with an average attendance of about 200 in the summer and 20 to 50 in the winter.

The Government has provided the most modern equipment for the work to be done and the staff were specially chosen by the director because of their knowledge and aptitude. Progress has been rapid and there is being built up a solid reputation both for the Observatory and the staff, which is evidenced among other ways by the award to the director of a Fellowship in the Royal Society of London. The director and his staff have done much to foster interest in the work of the Observatory both by papers read at the meetings of scientific societies at home and abroad, and by articles contributed to newspapers and scientific journals.

Natural Resources Intelligence Service

The demand for information regarding Canada's natural resources has been well maintained during the past year despite conditions that have tended to affect the prosperity and to limit the extension of agriculture. Mineral, forest,

and water-power resources have provided a broad basis for continued commercial growth during the lull in land settlement. A feature of particular interest in connection with the work of this service as a central bureau of resources information has been the activity lately displayed by leading United States banks and other financial institutions in drawing the attention of their clients to Canada's commercial position, to her varied resources, and to the attractions of the Dominion as a field for capital investment. Much of the resources information made available by this and other branches of the public service is given very wide and effective use by such institutions.

Information Service.—During the year the Natural Resources Intelligence Service received over 13,600 requests for resources and geographical information, and issued in response approximately 103,400 maps, 52,000 reports, and 16,600 lists of unoccupied farms for sale. Some 7,800 copies of literature containing land settlement information were forwarded to prospective settlers and over 700 mounted wall maps and other publications furnished to educational institutions. The demand for publications for educational use has been featured by the number of university classes initiating courses in Canadian geography and history. Requests for information from abroad have been received from instructors and librarians of leading universities throughout the United States, the Librarian of Harvard alone requiring 500 publications with which to maintain what is regarded as the most complete library on Canadian matters in the United States.

To financial and other business houses some 8,700 copies of maps, reports, and bulletins were issued for office reference, for clients participating through bond issues in the Dominion's commercial development, for the routing of salesmen and other purposes. Insurance companies, some operating in almost every country in the world, and transportation companies, with offices in the chief cities throughout the United States and Europe, utilized the maps and reports to equip their foreign bureaux with reference libraries. A number of organizations were also furnished with the booklet "Compact Facts" and with the Resources Map of Canada, for enclosure with their foreign correspondence.

Enquiries received during the twelve months period included quite a number from Australia, New Zealand, Italy, India, Norway, Belgium, Holland, Denmark, Switzerland, Morocco, Russia, and France, also the customary large correspondence from the United States and Great Britain. Applicants writing from the British Isles required 8,029 publications, while 11,247 copies were distributed in the United States. To other foreign countries 1,064 were sent.

The material made freely available by this service was utilized to advantage by lecturers in addresses to audiences in Washington, D.C., Spokane, Washington; Atlanta, Georgia; and San Francisco. Through such lectures many thousands of United States citizens were given an opportunity to become more closely familiar with the conditions in Canada from the standpoint of settler, tourist, and capitalist. The majority of lecturers were either former Canadians now residing in the United States or recent visitors to this country; consequently they proved an excellent medium through which existing opportunities might be drawn to the attention of those favourable to migrating, investing in development projects, or spending a vacation in Canada.

Practically all departments of the Dominion and Provincial Governments utilized the publications of the service in their work, a total of 52,800 copies being distributed for their use. Of this number Canadian immigration agents throughout the United States required 3,500 lists of unoccupied farms for sale, while the Superintendent of Emigration for Canada in London, England, was furnished with 4,455 publications. An arrangement was entered into between the

Department of Agriculture, Department of Immigration and Colonization, and this department whereby each Dominion land agency was equipped with a supply of government literature and maps of interest and assistance to the homesteader. The co-operative arrangement called for a distribution of 37,000 bulletins, maps, and reports during the year and a number of agents found it necessary to replenish their stock from time to time. It is apparent that the present-day settler is taking advantage of the opportunity to secure the expert advice on the various phases of agriculture afforded by the Department of Agriculture's bulletins regarding methods of farming, now obtainable from the Dominion lands agent. Forms have also been furnished the agencies as a result of an arrangement made between this service and the Department of Agriculture.

Consolidation of Mapping.—During the year arrangements were carried through whereby, in future, the geographic mapping of the department will be conducted as an integral portion of the work of the Natural Resources Intelligence Service. The economic mapping work which has been pursued over a considerable period, has widened very rapidly in scope with the growing public realization of the adaptability of maps to the study and treatment of various problems. Under the new arrangement the department's facilities for both geographic and economic mapping are closely associated and supervised in such manner as to permit the best use of staff and the maximum degree of co-ordination in mapping work.

As now organized the service is carrying on the chief geographic and economic mapping activities of the Dominion Government. It publishes regularly a standard set of geographic maps, a series of homestead maps showing the land situation in the Prairie Provinces, resources maps of the Dominion and of individual provinces, and numerous others designed to meet special administrative or commercial needs. In addition to those compiled for publication it maintains many detailed reference maps showing the distribution of various natural resources, the areas under development and those potentially attractive in greater or less degree. Each year sees steady advance in the work of assembling the available knowledge of Canada's resources and reducing it to readily accessible form through the use of the detailed reference maps.

Settlement Lands.—Of the natural resources of the Dominion the lands available for farm settlement rank first and, as in former years, a major portion of the service's activities has been directed toward obtaining and issuing adequate information on Canada's settlement areas. Publication of the homestead maps has been continued, these maps forming the standard guide to the land situation in Western Canada. In line with the general policy of co-operation with the provinces in the matter of land settlement, the department has been endeavouring to encourage the location of newly arriving settlers in districts where facilities such as roads, schools and so forth are already established. To this end lists of privately owned lands which are presently unoccupied and unproductive have been compiled with a view to enabling prospective buyers to get into touch with the owners. Many of our new citizens arrive here with sufficient capital to purchase homes and are taking advantage of the favourable opportunities of becoming established in settled districts. These lists have been published and widely distributed, giving the names and addresses of individuals and companies who have lands for sale, together with the location of each area offered, the nature of the soil, surface, improvements if any, and the price and terms of sale or lease. Information as first assembled by the service covered some 22,290,000 acres of privately held unoccupied lands in the Prairie Provinces, practically all situated within 15 miles of railways. For this area of

22,290,000 acres the distribution of ownership, as nearly as can be determined, is approximately as follows:—

Province	Owned in Province	Owned by C.P.R.	Owned by C.N.R.	Owned by H.B. Co.	Owned elsewhere in Canada	Owned in U. S.	Owned outside Canada and U.S.	Address unknown	Total
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Manitoba...	41·81	8·72	6·96	10·36	9·60	22·14	0·41	.....	100·00
Saskatchewan.....	11·76	17·57	8·28	16·65	24·28	20·53	0·50	0·43	100·00
Alberta.....	24·60	34·33	0·03	10·99	12·38	16·93	0·74	.....	100·00
% of total	21·07	24·59	4·21	13·29	17·05	18·99	0·62	0·18	100·00

In view of the immense areas of land so held it is self-evident that the primary problem of western settlement to-day centres around the need of bringing into the market and into use the alienated lands that are now idle, lying within reach of railways but interrupting continuous settlement. During the past year further investigations have been made, and the service will shortly be in a position to issue revised lists giving up-to-date information for the use of the settler desiring to get into touch with private owners of unoccupied lands.

The Technical Division of the service, embracing complete photographic laboratories, photostat, blue-printing, mimeographing, and other equipment, as well as a plant for mounting and binding maps for special purposes, was kept exceptionally busy throughout the year. The fact that this division is self-contained and possesses facilities for the most up-to-date processes in reproduction work enables the department and other branches of the Government to obtain the speediest service at costs considerably below commercial charges. The still pictures made per annum alone number around 20,000 and the circulation of the lantern slide library, with lectures accompanying the slides, reaches many countries.

THE LAND SITUATION—Manitoba, Saskatchewan and Alberta corrected to January 1, 1923.

	Manitoba	Saskatchewan	Alberta	Total for all three provinces
	Acres	Acres	Acres	Acres
Surveyed area—				
Land	31,440,301	77,116,773	83,461,816	192,018,890
Water	4,260,500	1,911,200	2,302,200	8,473,900
Totals	**35,700,801**	**79,027,973**	**85,764,016**	**200,492,790**
Unsurveyed area—				
Land	112,130,397	75,223,547	75,416,844	262,770,788
Water	13,341,100	6,836,480	2,201,540	22,379,120
Totals	**125,471,497**	**82,060,027**	**77,618,384**	**285,149,968**
Total area—				
Land	143,570,698	152,340,320	158,878,660	454,789,678
Water	17,601,600	8,747,680	4,503,740	30,853,020
Grand Totals	**161,172,298**	**161,088,000**	**163,382,400**	**485,642,698**

DETAILED STATEMENT of Surveyed Areas in Manitoba, Saskatchewan and Alberta, January 1, 1923

	Manitoba	Saskatchewan	Alberta	Total
	Acres	Acres	Acres	Acres
Area under homestead (including military homesteads)	8,269,400	27,616,100	18,278,600	54,164,100
Area under pre-emption, purchased homesteads, sales, half-breed scrip, bounty grants, special grants, etc	5,111,100	7,663,300	3,864,100	16,638,500
Area granted to railway companies	3,566,997	15,177,063	13,120,014	31,864,074
Area granted to Hudson's Bay Company	1,196,800	3,183,600	2,175,900	6,556,300
Area of School Land Endowment (1-18 of area surveyed in sections)	1,637,700	3,942,000	3,755,700	9,335,400
Areas sold subject to reclamation by drainage	.....	267	34,083	34,350
Area sold under irrigation system	.....	76,832	981,853	1,058,685
Area under timber berths	872,600	740,900	1,445,200	3,058,700
Area under grazing leases	131,700	2,898,700	2,850,200	5,880,600
Area of forest reserves and parks	2,386,700	5,964,300	16,802,300	25,153,300
Area reserved for forestry purposes (inside surveyed tract)	746,300	1,430,000	1,677,500	3,853,800
Area of road allowance	977,132	1,467,500	1,287,200	3,731,832
Area of parish and river lots	505,211	84,010	118,564	707,785
Area of Indian reserves	434,301	1,071,136	1,367,707	2,873,144
Area of Indian reserves surrendered	87,560	410,365	302,495	800,420
Area of water-covered lands (inside surveyed tract)	4,260,500	1,911,200	2,302,200	8,473,900
Area undisposed of	5,516,800	5,390,700	15,400,400	26,307,900
Total areas within surveyed tract	35,700,801	79,027,973	85,764,016	200,492,790

SESSIONAL PAPER No. 12

STATEMENT of Land Sales by Railway Companies having Government Land Grants and by the Hudson's Bay Company

Year	Hudson's Bay Company		Canadian Pacific Railway Company		Manitoba, South-western Colonization Railway Company		Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Company	
	Acres	Amount	Acres	Amount	Acres	Amount	Acres	Amount
		$		$		$		$
1893	.....	.....	93,184	295,288	14,164	57,559	1,603	.....
1894	7,526	48,225	43,155	131,628	6,312	280,003	640	.....
1895	4,431	23,209	55,453	176,950	5,623	22,330	2,391	.....
1896	9,299	52,410	66,624	220,360	21,254	88,568	286	.....
1897	10,784	53,277	135,681	431,095	63,800	634,644	2,524	.....
1898	62,000	310,000	242,135	757,792	106,473	363,982	22,534	.....
1899	56,875	274,625	261,832	814,857	58,019	199,558	61,030	178,517
1900	70,196	352,631	379,091	1,152,836	133,507	437,449	18,932	53,974
1901	82,308	399,804	339,985	1,046,665	59,749	214,953	22,266	74,810
1902	269,577	1,412,332	1,362,478	4,440,500	206,411	713,365	39,835	147,365
1903	330,046	1,939,804	2,260,722	8,472,250	250,372	699,210	843,900	1,476,900
1904	144,857	879,910	857,474	3,516,864	29,522	113,303	.....	.....
1905	139,721	865,905	411,451	2,045,800	80,342	296,936	.....	.....
1906	236,191	1,863,375	1,012,322	6,015,060	83,418	360,889	.....	.....
*1907	69,158	742,221	851,083	4,817,682	3,051	22,645	1,353	16,789
1908	21,184	267,215	81,060	727,367	31,982	153,007	5,621	68,869
1909	25,449	288,836	29,331	383,390	10,396	84,845	37,662	380,371
1910	104,382	1,297,454	655,585	10,473,425	14,501	126,950	106,000	964,600
1911	267,038	3,747,768	715,095	10,372,661	20,313	284,859	113,533	1,237,204
1912	42,554	808,943	855,280	12,420,488	18,932	117,497	35,213	495,116
1913	53,581	1,128,806	447,158	6,348,352	2,768	48,639	15,395	255,399
1914	26,292	572,837	263,962	4,242,089	7,626	91,948	1,629	21,546
1915	16,400	306,550	151,262	2,496,872	489	5,508	1,292	19,118
1916	79,310	1,273,144	242,215	3,670,421	4,780	58,808	12,246	180,361
1917	254,941	4,234,244	405,764	6,612,040	12,470	165,245	21,533	331,596
1918	386,394	6,914,947	545,285	11,044,883	25,933	321,005	49,723	783,062
1919	285,561	4,978,950	602,555	10,580,669	5,289	67,214	33,838	527,670
1920	276,629	4,724,941	571,571	11,356,146	4,623	56,760	32,095	474,895
1921	178,301	3,037,369	275,636	5,898,994	1,518	20,058	11,432	160,472
1922	33,595	545,611	101,497	1,732,350	1,519	15,497	1,274	22,315
1923	24,976	366,257	83,485	1,248,968	373	5,107	1,122	17,000
Totals	3,569,556	43,711,600	14,399,411	133,944,692	1,285,529	5,476,241	1,496,902	7,887,949

*Nine months to March 31.

STATEMENT of Land Sales by Railway Companies having Government Land Grants, and by the Hudson's Bay Company—*Concluded*

Year	Calgary and Edmonton Railway Company		Canadian Northern Railway Company		Great Northwest Central Railway Company		Total		Average per acre
	Acres	Amount	Acres	Amount	Acres	Amount	Acres	Amount	
		$		$		$		$	$ c.
1893	11,260	.....	.....	.....	.....	.....	120,211	352,847	2 93
1894	11,035	.....	.....	.....	.....	.....	68,668	207,856	3 02
1895	46,815	.....	.....	.....	.....	.....	114,713	222,489	1 94
1896	10,553	.....	.....	.....	.....	.....	108,016	361,338	3 34
1897	9,436	.....	.....	.....	.....	.....	222,225	719,016	3 23
1898	15,481	.....	.....	.....	.....	.....	448,623	1,431,774	3 18
1899	24,738	53,335	.....	.....	.....	.....	462,494	1,520,792	3 28
1900	46,653	128,256	.....	.....	.....	.....	648,379	2,125,146	3 27
1901	116,719	352,037	.....	.....	.....	.....	621,027	2,088,269	3 36
1902	323,494	1,033,396	.....	.....	.....	.....	2,201,795	7,746,958	3 56
1903	231,800	909,600	183,736	631,503	128,435	522,490	4,229,011	14,651,757	3 46
1904	129,007	563,507	64,469	313,575	41,858	177,081	1,267,187	5,564,240	4 39
1905	109,191	512,898	231,707	1,221,469	17,593	103,564	990,005	5,046,572	5 09
1906	85,784	480,063	204,966	1,014,351	20,003	137,503	1,642,684	9,871,241	6 01
*1907	59,515	346,064	289,576	1,711,109	4,023	41,470	1,237,759	7,697,930	6 02
1908	8,606	75,644	196,946	1,746,504	1,294	13,855	346,693	3,052,461	8 80
1909	6,370	66,508	.....	.....	165	7,935	109,373	2,211,885	11 08
1910	18,323	182,926	285,428	2,783,010	571	6,863	1,184,790	15,835,228	13 36
1911	11,820	116,231	277,414	3,336,797	1,438	27,417	1,406,651	19,122,937	13 59
1912	10,853	154,424	365,926	4,216,578	632	11,373	1,329,390	18,224,419	13 70
1913	4,155	44,212	182,491	2,009,642	1,601	32,105	707,149	9,867,155	13 95
1914	19,575	460,129	182,491	2,009,642	.....	.....	501,575	7,398,191	14 75
1915	23,042	444,018	.....	.....	316	6,956	192,801	3,279,031	17 01
1916	11,689	172,033	.....	.....	4,646	81,182	354,886	5,435,949	15 32
1917	33,821	573,875	17,796	298,938	8,829	141,439	755,154	12,357,377	16 35
1918	53,335	815,628	39,546	732,351	16,021	275,724	1,116,237	20,887,600	18 71
1919	31,774	479,496	65,110	1,261,963	14,530	252,774	1,038,657	18,148,736	17 47
1920	26,953	425,656	86,305	1,685,241	27,981	464,586	1,026,157	19,188,225	18 69
1921	11,681	191,928	69,934	1,455,319	5,128	96,616	553,630	10,860,756	19 61
1922	3,024	51,603	14,163	263,199	167	2,997	155,239	2,833,572	16 96
1923	1,013	15,552	11,214	190,112	1,120	21,368	123,303	1,864,364	15 12
Totals..	1,507,515	8,649,019	2,769,218	26,881,303	296,351	2,425,007	25,324,482	228,976,111	9 04

*Nine months to March 31.

ACCOUNTS

STATEMENT of Gross Cash Receipts Received from all Sources, for the Fiscal Year 1922-1923, Compared with Receipts for the Previous Fiscal Year.

Source of Revenue	1922-1923	1921-1922	Increase	Decrease	Net Decrease
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Dominion lands	2,430,867 14	2,918,529 59	.....	487,662 45	
School lands	1,538,449 98	2,335,726 83	.....	797,276 85	
Ordnance lands	6,132 79	8,446 48	.....	2,313 69	
Seed grain and relief	254,802 23	372,350 89	.....	117,548 66	
Registrars' fees	454 00	524 64	.....	70 64	
Fines and forfeitures	3,075 46	2,912 73	162 73		
Casual revenue	20,060 18	20,128 63	.....	68 45	
Sales of railway lands—Special account	1,600 00	8,800 00	.....	7,200 00	
	4,255,441 78	5,667,419 79	162 73	1,412,140 74	1,411,978 01

STATEMENT of Cash Receipts on Account of Dominion Lands Revenue for the Fiscal Year ended March 31, 1923, as Compared with the Receipts for the Previous Fiscal Year.

Particulars	1922-1923	1921-1922	Increase	Decrease	Net Decrease
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Homestead fees	53,460 00	73,540 00		20,080 00	
Sale fees	80 00	170 00		90 00	
Improvements	34,828 44	55,168 13		20,339 69	
Pre-emption sales under 1908 Act	341,288 86	660,501 11		319,212 25	
Purchased homestead sales	28,624 97	36,200 35		7,575 38	
Map sales, office fees, etc	21,414 16	23,352 07		1,937 91	
Rentals of land	14,471 49	10,924 49	3,547 00		
Survey fees	31 67		31 67		
D.L.S. Examination fees	180 00	170 00	10 00		
Patent and interchange fees	263 00	470 00		207 00	
Suspense Account	5,147 49	10,294 23		5,146 74	
Interim receipt account—Yukon	197 00	61 00	136 00		
Miscellaneous	1,000 78	5,006 18		4,005 40	
Timber dues	825,465 05	683,490 99	141,974 06		
Grazing rental	153,697 11	144,344 67	9,352 44		
Grazing lands improvements	2,019 50	916 70	1,102 80		
Hay permits	21,718 43	24,398 99		2,680 56	
Irrigation fees	601 00	436 00	165 00		
Irrigation sales	5,005 16	12,969 52		7,964 36	
Sale of trees, etc.—Forestry Br.	3,037 96	2,843 75	194 21		
Fishing permits—Forestry Br.	1,411 00	1,420 00		9 00	
Ice permits	75 00		75 00		
Coal lands	355,325 65	413,913 67		58,588 02	
Mining fees	86,825 52	88,962 73		2,137 21	
Dredging leases	604 30	2,538 30		1,934 00	
Hydraulic leases	5,436 35	2,569 00	2,867 35		
Potash leases	736 55	1,553 75		817 20	
Petroleum leases	305,770 00	488,359 75		182,589 75	
Export tax on gold	25,819 04	30,774 68		4,955 64	
Free certificates for export of gold	16 50	4 50	12 00		
Stone quarries	6,354 31	7,527 23		1,172 92	
Sand, stone and gravel	1,673 55	1,363 75	309 80		
Rent of water-power	4,008 34	3,429 56	578 78		
Amber leases		238 00		238 00	
Quartz rental	3,770 00	1,061 90	2,708 10		
Quartz acreage	377 25		377 25		
Rocky Mountains park	62,975 25	59,208 63	3,766 62		
Jasper park	5,708 80	7,973 01		2,264 21	
Waterton Lakes park	3,472 83	3,148 12	324 71		
Yoho park	1,669 54	1,544 12	125 42		
Antelope park	572 80	1,015 20		442 40	
Buffalo park	130 00	226 85		96 85	
Elk Island park	98 50	80 00	18 50		
Fort Anne park	31 00	45 00		14 00	
Glacier park	405 32	285 38	119 94		
Moose Mountain buffalo res.	55 20	452 60		397 40	
Point Pelee park	3 00	21 02		18 02	
Vidal's Point park	27 00		27 00		
Kootenay park	88 20	8 75	79 45		
Isle-aux-Noix reserve		215 00		215 00	
Liquor permits N.W.T.	231 40	194 00	37 40		
Traders licenses N.W.T.	1,180 00	1,280 00		100 00	
Trappers licenses N.W.T	4,433 00	1,599 00	2,834 00		
Taxidermists licenses	67 15	79 00		11 85	
General sales	38,982 72	52,178 91		13,196 19	
	2,430,867 14	2,918,529 59	170,774 50	658,436 95	487,662 45
Refunds	83,151 71	119,079 58		35,927 87	35,927 87
	2,347,715 43	2,799,450 01	170,774 50	622,509 08	451,734 58

In addition to $38,982.72 on account of general sales, the Department received $1,590 from sales of railway lands, which sum, as provided by Orders in Council, has been credited to special accounts in the books of the Finance Department.

STATEMENT Showing Receipts on account of Dominion Lands from July 1, 1872, to March 31, 1923.

Fiscal Year	Homestead Fees	Pre-emption Fees	Improvements	Sales		Map sales, Office and Registration Fees	Dominion Lands Surveyors' Examination Fees	Rents, Survey Fees, Miscellaneous, and Suspense Account	Purchased, Homestead Inspection, Cancellation and Sundry Fees	Timber Dues
				Cash	Scrip					
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1872-73	6,960 00			19,170 20						109 25
1873-74	7,310 00			19,834 75				125 50		2,710 55
1874-75	11,150 00			13,666 90		129 00				2,335 25
1875-76	4,680 00			3,478 94	320 00					387 00
1876-77	2,250 00			1,085 86	136,955 16	4 00		100 00	40 00	320 00
1877-78	14,540 00			2,794 86	120,159 54		180 00		290 00	1,620 00
1878-79	17,690 00			4,998 39	210,904 84	81 00	310 00	13 70	410 00	325 00
1879-80	41,255 00	10,241 43		45,708 97	81,685 86	245 40	580 00	183 25	1,780 00	25,121 46
1880-81	20,450 00	10,801 75	269 00	71,170 17	70,828 30	985 40	420 00	37 58		32,028 34
1881-82	54,155 00	39,843 90	1,758 00	1,240,328 27	50,590 84	3,036 45	890 00	58 10		58,753 14
1882-83	73,015 00	54,725 00	7,114 91	516,092 21	33,638 40	3,109 50	890 00	501 77		90,066 46
1883-84	41,580 00	28,810 00	2,596 11	424,863 36	40,919 67	1,289 55	530 00	45,766 53	1,713 45	147,983 10
1884-85	25,645 00	17,100 00	2,328 75	199,275 32	45,875 60	1,621 82	370 00	50,068 57	2,685 00	87,474 99
1885-86	26,110 00	14,371 00	1,101 50	76,140 41	214,657 97	1,339 34	360 00	20,070 00	5,025 00	64,820 31
1886-87	19,614 00	6,887 93	1,971 55	48,175 76	337,640 19	1,171 39	240 00	44,561 00	7,778 40	65,111 74
1887-88	23,691 00	4,830 00	1,918 35	52,238 36	313,522 67	1,660 75	240 00	20,591 41	12,078 53	94,964 55
1888-89	39,460 00	10 550 00	4,128 48	57,513 16	318,238 57	1,410 16	220 00	10,389 57	20,402 50	90,290 00
1889-90	35,920 00	8,580 00	3,250 54	54,896 85	228,744 47	2,099 07	190 00	3,316 23	21,715 00	84,642 95
1890-91	29,164 10		6,302 61	91,664 98	171,425 14	1,854 78	88 00	7,951 05	16,790 00	102,902 71
1891-92	46,994 00		6,472 31	111,651 01	97,822 41	2,147 31	135 00	29,898 49	27,964 00	106,461 35
1892-93	37,689 74		7,113 50	96,171 67	77,231 18	975 20	82 00	18,509 35	22,015 50	105,865 24
1893-94	36,462 26		3,497 76	53,254 71	27,840 96	973 11		13,457 09	11,097 00	81,290 51
1894-95	29,664 88		3,567 90	37,293 71	23,269 62	695 99	40 00	6,271 77	6,566 90	74,079 20
1895-96	18,278 00		3,163 15	46,373 98	46,929 65	610 78	50 00	21,679 31	6,810 50	61,923 47
1896-97	21,179 00		3,737 01	49,335 53	16,929 38	795 05	70 00	11,129 72	8,527 50	68,992 82
1897-98	34,780 00		5,649 63	80,178 64	28,918 14	1,987 40	10 00	15,376 53	15,859 88	119,313 78
1898-99	58,235 00		4,297 62	116,594 35	21,307 58	1,266 05	20 00	67,450 95	20,850 40	155,360 63
1899-1900	72,690 00		4,835 81	103,247 58	88,756 22	1,258 85	190 00	31,154 04	21,688 00	126,345 82
1900-01	79,910 00		5,213 22	40,360 93	326,270 03	3,874 14	165 00	70,499 54	12,874 00	209,399 32
1901-02	144,425 00		8,481 46	66,950 21	169,767 13	5,792 96	370 00	71,993 30	663 00	207,790 90
1902-03	320,409 65		11,829 08	155,537 49	158,452 66	5,911 96	365 00	125,128 66	595 00	470,916 93
1903-04	255,772 36		15,119 47	196,750 15	189,705 08	5,549 13	463 50	81,246 46	1,081 00	397,344 33
1904-05	304,806 25		21,571 25	154,128 04	19,644 59	4,879 13	906 50	144,854 31	1,271 00	266,951 46
1905-06	417,834 25		31,795 19	442,588 69	7,654 57	6,042 34	474 00	141,345 30	1,046 25	292,684 53
1906-07 (9 months)	215,449 55		39,763 63	503,202 44	11,349 89	5,449 06	420 00	60,450 99	685 00	379,476 32
1907-08	301,693 73		71,139 47	656,303 03	92,311 24	7,727 29	690 00	148,914 00	1,283 50	473,608 94
1908-09	389,039 00	141,550 15	70,928 86	951,442 28	20,136 27	7,296 55	1,040 00	75,596 96	9,579 50	269,837 52

1909–10	415,232 00	174,250 00	105,009 07	1,239,037 33	9,973 84	9,135 49	1,500 00	99,967 27	14,028 30	377,856 45
1910–11	445,135 00	156,485 00	143,227 13	1,193,756 04	1,437 84	8,730 01	1,310 00	42,111 92	20,142 85	387,054 96
1911–12	391,703 12	102,070 00	184,825 92	1,967,182 85	3,256 99	11,239 14	1,400 00	44,280 89	14,745 50	400,668 61
1912–13	337,055 00	85,940 00	168,904 42	1,650,491 87	6,157 27	14,483 91	1,040 00	17,866 65	11,380 00	463,738 75
1913–14	317,412 00	61,660 00	187,052 46	1,303,587 54	240 00	16,056 07	1,350 00	40,148 65	8,402 00	378,365 33
1914–15	238,295 00	28,720 00	114,982 17	696,672 23	80 00	14,290 23	970 60	33,234 14	4,776 10	310,934 29
1915–16	170,350 00	22,760 00	112,782 70	1,090,842 36	.....	11,485 83	470 00	19,495 98	3,475 00	378,960 68
1916–17	112,110 20	14,690 00	112,711 33	2,707,203 99	332 61	13,976 95	560 00	21,212 91	2,910 00	429,403 09
1917–18	83,180 00	7,870 00	89,371 59	3,046,091 55	131 47	12,066 22	250 00	26,513 84	2,200 00	482,006 25
1918–19	42,190 00	.....	49,225 97	2,192,860 81	323 41	11,039 54	100 00	77,291 91	360 00	408,728 28
1919–20	67,460 00	.....	78,913 74	2,799,605 09	80 00	17,134 19	255 00	28,535 19	340 00	589,780 21
1920–21	53,880 00	.....	70,492 66	1,721,171 61	.....	16,333 67	200 00	23,149 23	370 00	705,313 77
1921–22	73,540 00	.....	56,094 83	761,849 89	.....	23,352 07	170 00	26,285 90	3,713 00	683,490 99
1922–23	53,460 00	.....	36,847 94	414,278 96	900 00	21,414 16	180 00	20,848 43	6,187 40	825,465 05
Totals	6,081,314 09	1,002,736 16	1,861,348 05	29,589,094 28	3,823,317 25	284,007 39	20,754 60	1,859,633 94	354,195,96	11,641,376 58

STATEMENT Showing Receipts on account of Dominion Lands from July 1, 1872, to March 31, 1923—*Concluded.*

Fiscal Year	Grazing Lands		Hay, Coal, Mining Fees, Stone Quarries, Export Tax on Gold, etc.		Canadian National Parks	Colonization Lands		Gross Revenue	Refunds	Net Revenue
	Cash	Scrip	Cash	Scrip		Cash	Scrip			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts
1872–73								26,239 45		26,239 45
1873–74								29,980 80		29,980 80
1874–75								27,641 15		27,641 15
1875–76								8,865 94		8,865 94
1876–77								140,755 02		140,755 02
1877–78								139,584 40		139,584 40
1878–79								234,732 93		234,732 93
1879–80								206,801 37	4,636 08	202,165 29
1880–81								206,990 54	5,038 22	201,952 32
1881–82	2,245 00		40 00			354,036 17		1,805,734 87	10,687 55	1,795,047 32
1882–83	22,844 43		913 91			248,492 01		1,051,403 60	9,746 05	1,042,657 55
1883–84	11,370 60		640 90			253,713 40		1,001,776 67	9,220 50	992,556 17
1884–85	17,089 75		815 63			1,214 22		451,564 65	12,070 85	439,493 80
1885–86	29,562 51	3,131 08	1,284 83					457,973 95	63,389 12	394,584 83
1886–87	14,242 77	39,487 67	1,570 40	80 00				588,532 80	19,543 16	568,989 64
1887–88	5,922 47	23,023 28	2,273 73	80 00	2,951 58		10,000 00	569,986 68	6,277 66	563,709 02
1888–89	2,207 69	16,802 63	3,946 56		2,528 73		16,000 00	594,088 04	5,226 23	588,861 81
1889–90	1,305 57	9,021 63	9,242 08		1,094 37			466,018 76	8,209 74	455,809 02
1890–91	3,079 55	16,193 77	8,628 44	160 00	2,397 35	5 28	4,460 50	463,068 26	7,195 27	455,872 99
1891–92	3,726 80	17,222 60	5,616 85		3,648 45			459,760 58	15,291 39	444,469 19
1892–93	6,380 80	11,542 39	6,266 13		4,983 23			394,825 93	18,314 97	376,510 96
1893–94	5,740 79	7,687 86	6,243 15		2,523 92			250,069 12	4,544 01	245,525 11
1894–95	5,353 72	8,628 00	5,229 54		2,321 87			202,983 10	4,365 99	198,617 11
1895–96	7,071 86	6,255 90	5,813 51		2,734 82			227,694 93	8,368 79	219,326 14
1896–97	4,715 01	2,500 00	8,633 68		2,132 11			198,676 81	6,833 78	191,843 03
1897–98	4,728 58	510 39	699,383 01		3,045 65			1,009,741 63	4,678 55	1,005,063 08
1898–99	5,245 88		1,130,705 70		2,994 16			1,584,328 32	32,296 39	1,552,031 93
1899–1900	8,382 86	4,083 30	1,038,362 92	20 00	2,727 65			1,503,743 05	23,062 28	1,480,680 77
1900–01	4,726 28	14,671 99	1,102,127 33	20 00	4,047 31			1,874,159 09	18,368 85	1,855,790 24
1901–02	7,292 46	8,409 27	737,882 43		*2,861 13			1,432,679 25	27,165 55	1,405,513 70
1902–03	13,911 73	15,041 33	607,723 65		*5,063 69			1,890,886 83	21,519 84	1,869,366 99
1903–04	19,790 27	13,921 29	495,583 18		*9,498 48			1,681,824 70	36,721 75	1,645,102 95
1904–05	36,145 32	5,237 36	364,927 59		*14,059 55			1,339,382 35	25,786 90	1,313,595 45
1905–06	51,583 89	80 00	297,302 44		18,883 83			1,709,315 28	33,418 36	1,675,896 92
1906–07 (9 months)	43,711 91	400 00	214,257 10		*15,887 42			1,490,503 31	35,117 48	1,455,385 83
1907–08	43,211 78	4,048 01	266,415 31		27,232 87			2,094,479 17	115,080 04	1,979,499 13
1908–09	53,312 79	3,257 84	253,339 17		31,321 20			2,277,678 09	102,463 78	2,175,214 31
1909–10	67,807 01	5,081 47	459,870 29		43,697 61			3,022,446 13	121,431 15	2,901,014 98
1910–11	60,702 80	2,356 00	774,569 27		69,054 59			3,306,073 41	198,689 47	3,107,383 94

1911–12	69,519 41	1,520 00	729,126 56	.....	56,497 74	.....	.....	3,978,036 73	197,631 35	3,780,405 38
1912–13	79,412 76	.....	779,695 53	1,587 32	37,448 72	.....	.....	3,655,202 20	246,105 26	3,409,096 94
1913–14	84,926 15	320 00	865,499 12	.....	48,800 33	.....	.....	3,313,819 65	277,309 33	3,036,510 32
1914–15	101,710 58	400 00	1,594,905 42	.....	37,895 97	.....	.....	3,177,866 73	317,764 75	2,860,101 98
1915–16	118,955 02	160 00	476,408 82	.....	37,493 53	.....	.....	2,443,639 92	143,942 57	2,299,697 35
1916–17	128,341 50	.....	600,934 13	.....	45,851 45	.....	.....	4,190,238 16	134,243 14	4,055,995 02
1917–18	125,300 69	240 00	630,427 95	.....	52,160 52	.....	.....	4,557,810 08	113,680 44	4,444,129 64
1918–19	148,179 55	.....	630,975 74	.....	55,006 72	.....	.....	3,616,281 93	76,031 02	3,540,250 91
1919–20	183,661 96	.....	896,413 40	.....	76,742 07	.....	.....	4,738,920 85	116,249 03	4,622,671 82
1920–21	183,756 97	.....	1,234,558 49	.....	76,850 09	.....	.....	4,086,076 49	130,750 93	3,955,325 56
1921–22	144,344 67	.....	1,071,395 56	.....	74,302 68	.....	.....	2,918,529 59	119,079 58	2,799,450 01
1922–23	153,697 11	.....	823,183 50	.....	75,304 59	.....	.....	2,431,767 14	83,151 71	2,348,615 43
Totals	2,085,219 25	241,235 06	18,843,132 94	1,947,32	952,045 98	857,461 08	30,460 50	79,529,280 43	2,969,698 86	76,559,581 57

*Including Scrip.

STATEMENT Showing Yearly the Gross Revenue (in cash only) Received from all Sources from July 1, 1903, to March 31, 1923.

Fiscal Year	Dominion Lands	School Lands	Seed Grain	Ordnance Lands	Fines and Forfeitures	Registration Fees	Casual Revenue	Chinese Immigration Revenue	Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1903–04	1,478,106 33	233,769 62	26,122 30	30,494 34	5,911 92	109,233 73	3,402 94	.....	1,887,041 18
1904–05	1,314,485 40	332,914 48	16,471 34	10,346 90	10,018 49	123,082 86	4,258 14	.....	1,811,577 61
1905–06	1,701,580 71	608,960 79	12,577 29	10,893 17	3,304 77	180,310 73	8,496 09	.....	2,526,123 55
1906–07 (9 months)	1,478,749 51	724,353 73	10,850 06	6,663 90	21 00	46,124 20	11,785 81	.....	2,278,548 21
1907–08	1,998,219 92	708,045 83	12,899 84	8,674 95	1,650 00	2,256 65	20,069 03	.....	2,751,816 22
1908–09	2,254,283 98	687,422 74	53,590 86	205,749 96	281 00	1,352 13	26,224 29	.....	3,228,904 96
1909–10	3,007,390 82	1,292,259 95	175,152 72	189,902 48	211 00	1,471 49	42,625 96	.....	4,709,014 42
1910–11	3,302,279 57	1,614,733 93	153,351 14	6,009 34	4,052 22	1,378 19	11,336 06	.....	5,093,140 45
1911–12	3,973,259 74	1,594,533 96	119,634 13	11,566 46	10,510 48	1,066 05	32,824 65	971,339 00	6,714,734 47
1912–13	3,647,457 61	1,621,508 11	171,342 87	60,607 80	7,150 35	1,241 25	22,873 55	3,549,242 00	9,081,423 54
	24,155,813 59	9,418,503 14	751,992 55	540,909 30	43,111 23	467,517 28	183,896 52	4,520,581 00	40,082,324 61
1913–14	3,313,259 65	1,215,822 37	176,736 89	5,805 98	7,888 50	966 50	27,884 47	2,644,593 00	7,392,957 36
1914–15	3,177,386 73	943,717 00	68,263 56	4,416 64	5,828 00	969 85	11,738 10	588,124 00	4,800,443 88
1915–16	2,443,479 92	934,965 37	2,525,528 50	5,997 98	3,075 21	908 15	28,002 62	19,389 00	5,961,346 75
1916–17	4,189,905 55	1,699,370 06	3,652,729 05	5,553 26	2,184 72	796 85	15,618 26	140,487 00	9,706,644 75
1917–18	4,557,438 61	2,836,216 40	2,613,708 67	7,929 75	3,686 00	562 25	9,074 15	336,757 00	10,365,372 83
1918–19	3,615,958 52	5,087,875 81	1,378,275 76	4,819 27	35 00	789 22	12,381 71	.....	10,100,135 29
1919–20	4,738,840 85	3,900,091 75	1,155,354 64	9,840 33	70 00	430 78	22,837 87	.....	9,827,466 22
1920–21	4,086,076 49	4,480,270 67	773,200 67	8,887 88	1,139 75	448 31	811,970 45	.....	10,161,994 22
1921–22	2,918,529 59	2,335,726 83	372,350 89	8,446 48	2,912 73	524 64	20,128 63	.....	5,658,619 79
1922–23	2,430,867 14	1,538,449 98	254,802 23	6,132 79	3,075 46	454 00	20,060 18	.....	4,253,841 78
	35,471,743 05	24,972,506 24	12,970,950 86	67,830 36	29,895 37	6,850 55	979,696 44	3,729,350 00	78,228,822 87
Increase	11,315,929 46	15,554,003 10	12,218,958 31	.....	.....	.....	795,799 92	.....	38,146,498 26
Decrease	.....	.....	.....	473,078 94	13,215 86	460,666 73	.....	791,231 00	.....

STATEMENT of Revenue Collected within Canadian National Parks for the Fiscal Year ended March 31, 1923, as Compared with the Previous Year.

Particulars	Fiscal Year		Increase	Decrease	Net Increase
	1922-23	1921-22			
Rocky Mountains Park	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Rent	10,393 07	9,497 21	895 86		
Sulphur water rates	898 62	910 50	.....	11 88	
Timber dues	454 15	654 55	.....	200 40	
Cold water rates	7,649 49	8,204 62	.....	555 13	
Sewer rates	2,659 24	2,961 92	.....	302 68	
Transfer fees	166 00	208 00	.....	42 00	
Cave and Basin bathing tickets	11,205 95	10,403 35	802 60		
Livery licenses	1,759 00	844 00	915 00		
Pool, billiard and bowling licenses	220 00	236 00	.....	16 00	
Boat licenses	104 00	102 50	1 50		
Butcher licenses	100 00	70 00	30 00		
Grazing rental	608 00	755 00	.....	147 00	
Hot Springs bathing tickets	5,302 30	5,831 55	.....	529 25	
Telephone rent	5,633 78	5,166 53	467 25		
Bake shop licenses	30 00	.....	30 00		
Peddlers' licenses	124 00	144 00	.....	20 00	
Guides' licenses	33 00	60 00	.....	27 00	
Camping permits	544 00	360 00	184 00		
Cemetery lots	85 00	92 00	.....	7 00	
Tea room licenses	260 00	60 00	200 00		
Sand and gravel	55 50	48 85	6 65		
Dog licenses	619 00	506 00	113 00		
Automobile permits	4,749 00	6,431 00	.....	1,682 00	
Scales	354 25	32 50	321 75		
Ice	13 00	16 25	.....	3 25	
Sale of lime	16 00	16 00			
Theatre licenses	167 00	35 00	132 00		
Building permits	28 00	51 00	.....	23 00	
Garden and dairy licenses	15 00	17 00	.....	2 00	
Gum machines	10 00	20 00	.....	10 00	
Golf coupons	3,471 50	3,471 50			
Miscellaneous	83 17	59 80	23 37		
Barber shop license	10 00	.....	10 00		
Rink license	2 00	.....	2 00		
Chauffeurs' licenses	157 00	27 00	130 00		
Restaurant licenses	70 00	1,270 00	.....	1,200 00	
Electricians' licenses	13 00	9 00	4 00		
Stone quarries	.....	1 00	.....	1 00	
Improvements	.....	635 00	.....	635 00	
Motor licenses	1,607 00	.....	1,607 00		
Thawing machine	130 66	.....	130 66		
Electric light	2,467 86	.....	2,467 86		
Rooming-house license	21 00	.....	21 00		
Agent's license	180 00	.....	180 00		
Tobacco license	39 00	.....	39 00		
Dance hall license	30 00	.....	30 00		
News stand license	16 00	.....	16 00		
Auctioneer's license	10 00	.....	10 00		
Second-hand store license	25 00	.....	25 00		
Laundry license	90 00	.....	90 00		
Office fees	4 00	.....	4 00		
Garage license	67 00	.....	67 00		
Plumber's license	8 00	.....	8 00		
Sulphur water line (Dr. Brett's)	206 71	.....	206 71		
Palmist's license	10 00	.....	10 00		
	62,975 25	59,208 63	9,181 21	5,414 59	3,766 62

STATEMENT of Revenue Collected within Canadian National Parks for the Fiscal Year ended March 31, 1923, as Compared with the Previous Year—*Continued*

Particulars	Fiscal Year		Increase	Decrease	Net Decrease
	1922-23	1921-22			
Jasper Park	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Rent	2,948 10	2,144 79	803 31		
Timber dues	177 00	4,342 72	.....	4,165 72	
Building permits	112 00	76 00	36 00		
Boat licenses	20 00	5 00	15 00		
Hay dues	3 00	3 60	.....	0 60	
Peddlers' licenses	96 00	46 00	50 00		
Grazing rental	528 00	255 00	273 00		
Guides' licenses	43 50	47 50	.....	4 00	
Drivers' and livery licenses	467 00	166 00	301 00		
Camping permits	78 00	92 00	.....	14 00	
Pool, billiard and bowling licenses	120 00	170 00	.....	50 00	
Dog licenses	243 00	189 00	54 00		
Restaurant licenses	50 00	90 00	.....	40 00	
Butcher licenses	50 00	30 00	20 00		
Telephone rent	50 00	30 00	20 00		
Cold water rates	79 00	48 00	31 00		
Miscellaneous	64 90	83 95	.....	19 05	
Theatre licenses	22 00	22 00			
Transfer fees	5 00	31 00	.....	26 00	
Sand and gravel	3 75	6 00	.....	2 25	
Cemetery lots	36 00	18 00	18 00		
Chauffeurs' licenses	21 00	10 00	11 00		
Garden and dairy licenses	4 00	4 00			
Auto permits	.....	45 00	.....	45 00	
Cat taxes	16 00	12 00	4 00		
Ice	7 00	5 00	2 00		
Impounding fees	6 55	0 45	6 10		
Motor licenses	190 00	.....	190 00		
Rooming-house license	5 00	.....	5 00		
Tobacco license	8 00	.....	8 00		
Laundry license	20 00	.....	20 00		
Advertisement permit	10 00	.....	10 00		
Barber's license	2 00	.....	2 00		
Agent's license	135 00	.....	135 00		
Garage license	11 00	.....	11 00		
Electricians' licenses	2 00	.....	2 00		
Slot machines	40 00	.....	40 00		
Plumber's license	1 00	.....	1 00		
Hydroplane license	1 00	.....	1 00		
Bake shop license	10 00	.....	10 00		
Wood yard license	3 00	.....	3 00		
Tea room license	20 00	.....	20 00		Decrease
	5,708 80	7,973 01	2,102 41	4,366 62	2,264 21
Glacier Park					Net increase
Rent	45 89	53 88	.....	7 99	
Camping permits	.....	9 00	.....	9 00	
Grazing rental	25 00	30 00	.....	5 00	
Timber dues	77 00	4 50	72 50		
Dog licenses	36 00	30 00	6 00		
Restaurant licenses	.....	20 00	.....	20 00	
Guides' licenses	5 00	.....	5 00		
Drivers' and livery licenses	104 00	98 00	6 00		
Auto licenses	83 43	40 00	43 43		
Building permits	2 00	.....	2 00		
Peddlers' licenses	10 00	.....	10 00		
Tea room license	10 00	.....	10 00		
Tobacco license	2 00	.....	2 00		
Barber shop license	1 00	.....	1 00		
Hotel licenses	1 00	.....	1 00		
Chauffeur's license	3 00	.....	3 00		
	405 32	285 38	161 93	41 99	19 94

STATEMENT of Revenue Collected within Canadian National Parks for the Fiscal Year ended March 31, 1923, as Compared with the Previous Year—*Continued*

Particulars	Fiscal Year		Increase	Decrease	Net Increase
	1922-23	1921-22			
Waterton Lakes Park	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Rent	781 88	801 82	.....	19 94	
Camping permits	265 00	253 00	12 00		
Timber dues	131 75	129 05	2 70		
Fines	.....	37 00	.....	37 00	
Guide's license	3 00	.....	3 00		
Grazing rental	1,970 00	1,763 00	207 00		
Hay dues	3 70	2 50	1 20		
Drivers' and livery license	20 00	.....	20 00		
Boat licenses	62 50	74 00	.....	11 50	
Transfer fees	11 00	.....	11 00		
Building permits	27 00	7 00	20 00		
Tea room licenses	10 00	.....	10 00		
Theatre licenses	.....	10 00	.....	10 00	
Dog licenses	9 00	3 00	6 00		
Restaurant licenses	31 00	30 00	10 00		
Impounding fees	5 00	33 75	.....	28 75	
Peddlers' licenses	1 00	4 00	.....	3 00	
Miscellaneous	1 00	.....	1 00		
Chauffeur's license	7 00	.....	7 00		
Tobacco license	5 00	.....	5 00		
Motor license	10 00	.....	10 00		
Garden and dairy licenses	1 00	.....	1 00		
Garage license	11 00	.....	11 00		
Barber shop license	1 00	.....	1 00		
Golf fees	79 00	.....	79 00		
Sand and gravel permits	1 75	.....	1 75		
Hotel and rooming-house license	12 00	.....	12 00		
Orchestra license	10 00	.....	10 00		
Ice permits	2 25	.....	2 25		
	3,472 83	3,148 12	434 90	110 19	324 71
Yoho Park					
Timber dues	321 14	319 92	1 22		
Rent	485 69	530 20	.....	44 51	
Transfer fees	18 00	20 00	.....	2 00	
Camping permits	18 00	13 00	5 00		
Cemetery lots	3 00	.....	3 00		
Grazing rental	46 00	70 00	.....	24 00	
Guides' licenses	12 00	25 00	.....	13 00	
Miscellaneous	.....	2 00	.....	2 00	
Pool, billiard and bowling licenses	40 00	30 00	10 00		
Restaurant licenses	.....	50 00	.....	50 00	
Butchers' licenses	10 00	10 00			
Dog licenses	113 00	116 00	.....	3 00	
Boat licenses	32 00	12 00	20 00		
Drivers' and livery licenses	197 00	171 00	26 00		
Building permits	7 00	4 00	3 00		
Peddlers' licenses	10 00	6 00	4 00		
Motor licenses	305 71	165 00	140 71		
Rooming-house license	5 00	.....	5 00		
Tobacco license	5 00	.....	5 00		
Tea room license	30 00	.....	30 00		
News stand license	2 00	.....	2 00		
Theatre license	2 00	.....	2 00		
Chauffeur's license	5 00	.....	5 00		
Barber shop license	1 00	.....	1 00		
Wood yard license	1 00	.....	1 00		
	1,669 54	1,544 12	263 93	138 51	125 42
Kootenay Park					
Timber dues	2 00	8 75	.....	6 75	
Rent	80 00	.....	80 00		
Building permits	1 00	.....	1 00		
Radium Hot Springs	5 20	.....	5 20		
	88 20	8 75	86 20	6 75	79 45

STATEMENT of Revenue Collected within Canadian National Parks for the Fiscal Year ended March 31, 1923, as Compared with the Previous Year—*Concluded*

Particulars	Fiscal Year 1922-23	Fiscal Year 1921-22	Increase	Decrease	Net Increase
Elk Island Park	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Camping permits	15 00	11 00	4 00		
Boat licenses	3 00	44 00	.....	41 00	
Building permits	.....	20 00	.....	20 00	
Auto licenses	5 00	5 00			
Timber dues	21 00	.....	21 00		
Hay dues	34 25	.....	34 25		
Ice permits	0 25	.....	0 25		
Rent	20 00	.....	20 00		
	98 50	80 00	79 50	61 00	18 50
					Net Decrease
Buffalo Park	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Timber dues	41 00	96 25	.....	55 25	
Hay dues	.....	32 50	.....	32 50	
Grazing rental	4 00	28 00	.....	24 00	
Auto permits	.....	15 00	.....	15 00	
Miscellaneous	50 00	39 85	10 15		
Motor license	30 00	5 00	25 00		
Ice	5 00	10 25	.....	5 25	
	130 00	226 85	35 15	132 00	96 85
Antelope Park					
Grazing rental	572 80	1,015 20	.....	442 40	
Fort Anne Park					
Hay dues	30 00	45 00	.....	15 00	
Rent	1 00	.....	1 00		
	31 00	45 00	1 00	15 00	14 00
Isle aux Noix Reserve					
Hay dues	.....	215 00	.....	215 00	
Moose Mountain Buffalo Reserve					
Grazing rental	55 20	452 60	.....	397 40	
Point Pelee Park					
Rent	3 00	12 52	.....	9 52	
Miscellaneous	.....	8 50	.....	8 50	
	3 00	21 02	.....	18 02	
Vidal's Point Park	27 00	.....	27 00	.....	Net Increase
Miscellaneous					
Taxidermist's fees, etc	67 15	79 00	.....	11 85	
Totals	75,304 59	74,302 68	12,373 23	11,371 32	1,001 91

PART I

DOMINION LANDS

REPORT OF THE COMMISSIONER, J. W. GREENWAY

Applications for Patent—	1921–22	1922–23
Number examined	72,972	33,235
New applications	9,908	5,544
Applications accepted and notifications issued	9,607	4,835
Certificates of recommendation sent out	2,636	508

REPORT OF THE CHIEF INSPECTOR OF DOMINION LANDS AGENCIES, H. G. CUTTLE

Referring generally to the services rendered to the public by the various land agencies in the West, it is pleasing to report that the same has been most satisfactory. The details of this work are shown in the reports of the Dominion land agencies, and homestead appraisers as submitted by Mr. O. Neff, Inspector of Dominion Lands Agencies in Manitoba and Saskatchewan, and Mr. J. W. Martin, Inspector in Alberta and British Columbia.

REPORT OF THE INSPECTOR OF DOMINION LANDS AGENCIES FOR MANITOBA AND SASKATCHEWAN, O. NEFF

AGENCIES

Agency	Homestead entries granted	Land Sales — Ordinary and school lands	Applications for patent received	Land entries cancelled	Permits Issued	
					Timber	Hay
Battleford	387	10	385	1,065	231	556
Dauphin	363	21	316	629	392	372
Moose Jaw	76	6	484	566	5	729
Prince Albert	1,218	24	546	854	799	412
Winnipeg	525	67	634	1,003	.....	.....
Saskatoon	361	17	270	509	72	591
Swift Current	61	3	535	694	84	311
The Pas*	Mining locat	ions (696)	Assessment	payments (6	2)	
Totals	2,991	148	3,170	5,320	1,583	2,971
Compared with 1921–22	4,226	186	5,089	4,996	1,529	5,010

*The Pas Office is that of a Mining Recorder who is also Sub-Agent.

HOMESTEAD INSPECTORS, PRINCIPAL WORK PERFORMED BY

Name	Headquarters	Land Inspections made	Applications for Patent	Miles Travelled	
				Wagon	Rail
D. Anderson	Battleford	281	47	8,784	
N. F. Leach	"	457	40	5,481	2,618
G. L. Speers	Dauphin	459	130	4,546	7,655
Robt. Hunt	"	326	135	4,846	1,330
W. J. Morrison	Prince Albert	232	44	2,452	3,004
S. Taylor	"	305	18	7,728	4,513
E. H. E. Webb-Bowen	"	257	70	3,099	3,840
W. W. Whelan	"	277	77	5,745	1,856
C. E. Barr	Moose Jaw	2	3	34	218
W. Erratt	"	297	4	4,893	807
A. Hamilton	"	628	34	4,469	8,895
E. J. Hober	"	505	19	7,472	2,010
F. G. Arnold	"	33	6	483	968
A. E. Mosses	Saskatoon	831	51	8,833	640
A. E. Henke	"	392	53	5,350	4,026
A. Smyth	"	825	17	7,753	5,066
J. C. De Balinhard	"	413	41	5,239	7,638
L. Lépine	Winnipeg	272	36	3,058	6,793
W. Lagimodière	"	345	74	4,168	3,674
H. W. Mabb	"	279	39	3,288	1,768
W. D. Gillespie	"	422	29	5,097	2,205
W. Shields	Swift Current	457	78	7,266	
J. Furnis	"	666	17	6,331	184
P. McLaren	"	534	46	7,737	1,232
J. A. McDonald	"	674	147	6,902	2,451
Totals		10,169	1,255	131,054	73,391
Compared with 1921–22		9,703	2,505	154,054	85,994

REPORT OF THE INSPECTOR OF DOMINION LANDS AGENCIES FOR ALBERTA AND BRITISH COLUMBIA, J. W. MARTIN

AGENCIES

Agency	Homestead entries granted	Soldier grants	Land sales — Ordinary and school lands	Applications for patent received	Land entries cancelled	Permits Issued	
						Timber	Hay
Calgary	144	32	13	319	421	620	451
Edmonton	1,586	191	63	627	1,470	1,639	1,577
Grande Prairie	171	34	8	330	240	244	473
Kamloops	59	9	23	84	47	294	55
Lethbridge	20	2	4	291	267	493	88
New Westminster	50	33	11	22	76	.....	.....
Peace River	285	67	19	214	651	306	497
Revelstoke	45	4	2	18	28	111	.....
Totals	2,360	372	143	1,905	3,200	3,707	3,141
1921–22	3,134	695	137	3,299	4,052	3,812	2,797

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HOMESTEAD INSPECTORS, PRINCIPAL WORK PERFORMED BY

Name	Headquarters	Land inspections made	Applications for patent taken	Miles Travelled	
				Wagon	Rail
Benzie, J. M	Kamloops	329	62	6,089	2,404
Cook, H	Revelstoke	77	12	714	5,038
Cunningham, T. J	Edmonton	178	21	3,018	2,628
Doze, I. S	Edmonton	236	36	4,084	1,036
Fleming, G. W	Calgary	348	69	4,520	3,727
Griffin, A. H	Edmonton	252	11	3,261	3,634
Horne, J. A	Edmonton	331	29	5,783	3,240
Hagen, S. C	Edmonton	540	50	4,690	2,411
Key, A. E	Peace River	166	9	1,577	3,676
Kembry, R. A	Calgary	1,223	31	10,198	3,619
Magee, W. D	New Westminster	81	4	523	640
Mayberry, W. J	Lethbridge	909	140	10,615	682
McCowan, H. S	Edmonton	311	11	4,343	1,462
McConnochie, A	Edmonton	626	24	3,449	7,135
McMullen, J. E	Peace River	194	14	3,557	1,230
Newton, T. M	Grande Prairie	161	56	6,518	.....
Smith, L. T	Grande Prairie	192	67	6,617	180
Tempany, Wm	Calgary	2,284	3	8,697	1,612
Wilcox, D. E	Lethbridge	1,312	84	6,622	2,031
Woodlock, P. A	Calgary	771	31	9,538	1,238
Wynne, A. E	Edmonton	559	32	6,205	568
Totals		11,080	796	110,618	48,191
1921–22		7,293	970	127,095	55,665

REVENUES COLLECTED AT DOMINION LANDS AGENCIES, CLASSIFIED UNDER THE VARIOUS HEADINGS

Agency	Agent	Land Patents Branch	Timber and Grazing Branch	Forestry Branch	Reclamation Branch
		$ cts.	$ cts.	$ cts.	$ cts.
Manitoba—					
Winnipeg	L. P. O. Noel	13,550 21	510 15	.....	.....
Dauphin	E. Widmeyer	5,596 18	7,049 38	12,803 29	.....
Saskatchewan—					
Moose Jaw	J. A. Reid	109,239 99	9,673 55	2,614 30	.....
Prince Albert	R. M. Treen	17,305 96	220,133 22	29,492 94	.....
Saskatoon	L. C. Paterson	33,503 89	1,739 70	2,887 40	.....
Swift Current	S. Lee	118,165 21	21,881 27	10,337 93	435 53
Battleford	D. J. Rose	21,824 39	5,723 51	3,937 53	.....
Alberta—					
Calgary	W. E. Talbot	37,088 06	42,147 70	19,132 99	619 48
Edmonton	A. Norquay	26,003 50	107,636 88	30,301 80	1,487 15
Lethbridge	G. A. Nicholson	10,728 17	27,753 98	12,483 83	119 85
Peace River	R. Cruickshank	4,762 68	5,360 43	93 00	.....
Grande Prairie	F. L. Christie	4,616 87	5,339 60	.....	75 65
British Columbia—					
Revelstoke	T. J. Wadman	1,718 08	45,082 84	.....	.....
Kamloops	J. Bannerman	4,992 98	37,418 57	417 60	.....
New Westminster	W. C. Cowell	2,870 36	.....	.....	.....

REVENUES COLLECTED AT DOMINION LANDS AGENCIES—*Concluded*

Agency	Agent	Mining Lands Branch	School Lands Branch	Miscellaneous	Total
		$ cts.	$ cts.	$ cts.	$ cts.
Manitoba—					
Winnipeg	L. P. O. Noel	13,035 56	7,236 31	2,686 06	37,018 29
Dauphin	E. Widmeyer	5,754 98	2,493 62	552 28	34,249 73
Saskatchewan—					
Moose Jaw	J. A. Reid	5,310 98	31,151 24	39,691 47	197,681 53
Prince Albert	R. M. Treen	22 00	5,934 90	3,739 14	276,628 16
Saskatoon	L. C. Paterson	212 00	15,601 56	24,819 95	78,764 50
Swift Current	S. Lee	6,524 78	31,219 01	43,442 05	232,005 78
Battleford	D. J. Rose	130 00	10,320 46	2,744 40	44,680 29
Alberta—					
Calgary	W. E. Talbot	120,029 40	42,562 90	7,008 05	268,588 58
Edmonton	A. Norquay	134,280 25	17,318 71	4,892 54	321,920 83
Lethbridge	G. A. Nicholson	175,747 61	26,791 07	5,263 38	258,887 89
Peace River	R. Cruickshank	7,106 71	1,710 13	1,030 56	20,063 51
Grande Prairie	F. L. Christie	5,084 08	1,474 36	1,375 55	17,966 11
British Columbia—					
Revelstoke	T. J. Wadman	339 15	.....	.....	47,140 07
Kamloops	J. Bannerman	299 68	.....	.....	43,128 83
New Westminster	W. C. Cowell	31,170 80	.....	.....	34,041 16

REPORT OF THE CONTROLLER OF THE LAND PATENTS BRANCH AND REGISTRAR OF DOMINION LANDS PATENTS, N. O. COTE

With statements, A to K in relation thereto

LETTERS PATENT

The number of letters patent issued was 6,973, covering an area of 1,782,959 acres, which may be classified as follows:—

Province	Patents	Acres
Manitoba	1,200	177,208
Saskatchewan	3,053	1,237,718
Alberta	2,401	336,292
British Columbia	285	30,351
Yukon Territory	8	352
Northwest Territories	26	1,038
	6,973	1,782,959

These grants are given in detail in the statements marked A to G, inclusive, and may be summarized as follows:—

Grants	Patents	Acres
Homesteads	4,826	746,409
Sales	651	71,067
Pre-emptions	561	88,320
Purchased homesteads	95	13,975
Railways	295	795,869
Special or free grants	340	40,945
Northwest Half-breeds	7	1,366
Licenses of occupation	56	3,371
Soldier grants	141	21,490
Hudson's Bay Company	1	147
	6,973	1,782,959

There was a decrease of 6,143 letters patent and a decrease in the area patented of 241,560 acres as compared with the previous year.

There are recorded in the Land Patents Branch 453,304 letters patent, aggregating 101,390,897 acres, which have been issued since May, 1873, to March 31, 1922.

LANDS DISPOSED OF

Five thousand three hundred and forty-three (5,343) homestead entries were granted, aggregating an approximate area of 854,880 acres, made up by provinces as follows: Manitoba, 879; Saskatchewan, 2,104; Alberta, 2,207; British Columbia, 153; total, 5,343.

There was a decrease of 2,006 in the number of homestead entries granted, as compared with the previous year.

By land agencies the 5,343 homestead entries are made up as follows:—

Manitoba—Dauphin, 363; Winnipeg, 516; total, 879.

Saskatchewan—Battleford, 386; Moose Jaw, 77; Prince Albert, 1,219; Saskatoon, 361; Swift Current, 61; total, 2,104.

Alberta—Calgary, 143; Edmonton, 1,586; Grande Prairie, 172; Lethbridge, 20; Peace River, 286; total, 2,207.

British Columbia—Kamloops, 58; New Westminster, 50; Revelstoke, 45; total, 153.

The 5,343 entrants represented 12,768 persons, as compiled from information obtained from each entrant. Of these entries 1,646 were made by residents of the several provinces of the Dominion; 3 by Canadians who had returned from the United States, and 844 by persons who had previously obtained homestead entries, but which entries had been cancelled by default or at the request of the entrants in order, in most cases, to enter for other lands; 778 were made by persons from the British Isles; 1,019 by people from the United States; 420 by naturalized Austro-Hungarians; 126 by Russians and Finns; 113 by Norwegians; 107 by Swedes; 33 by naturalized Germans; 21 by Frenchmen; 24 by Belgians, and the remaining 209 were made by citizens of various other countries.

There were 1,212 soldier grant entries made during the year, aggregating approximately 193,920 acres, made up by provinces as follows:—

	No. of entries	Acres
Manitoba	468	74,880
Saskatchewan	370	59,200
Alberta	328	52,480
British Columbia	46	7,360
	1,212	193,920

By land agencies the soldier grant entries were as follows:—

Manitoba—Dauphin, 398; Winnipeg, 70; total 468.

Saskatchewan—Battleford, 45; Moose Jaw, 8; Prince Albert, 255; Saskatoon, 43; Swift Current, 19; total, 370.

Alberta—Calgary, 28; Edmonton, 184; Grande Prairie, 47; Lethbridge, 2; Peace River, 67; total, 328.

British Columbia—Kamloops, 10; New Westminster, 34; Revelstoke, 2; total, 46.

CANCELLED ENTRIES

There were cancelled 8,052 entries, as follows:—

	Manitoba	Saskatchewan	Alberta	British Columbia
Homesteads	1,895	2,278	2,652	236
Pre-emptions	6	673	218	....
Purchased homesteads	.....	35	8	....
Sales	6	18	24	3
	1,907	3,004	2,902	239

SALES

Two hundred and seventy-six (276) sales were made for 8,554 acres of land, with an average for each sale of about 31 acres.

ACCOUNTS AND REVENUE

There are at present kept in this Branch about 19,000 individual accounts in connection with purchased homesteads, pre-emptions, and ordinary sales.

The sum of $398,805.11, including $117,715.31 interest on deferred payments, was received on account of purchased homesteads, pre-emptions, and ordinary sales, being a decrease of $343,646.61 as compared with the payments received during the previous year.

The amount of $96,322.30 has also been received for entry fees, improvements, and sundries, making a total revenue for the fiscal year of $495,127.41.

REFUNDS

There were 593 refunds made, amounting to $29,723.22, as follows:—

447 refunds—Value of improvements collected on cancelled homesteads	$25,151.68
146 refunds—Overpayments on sales; and of moneys paid on account of purchased homesteads and pre-emption sales, entries for which have been cancelled	4,571.54
	$ 29,723.22

NEWLY SURVEYED LANDS THROWN OPEN TO HOMESTEAD ENTRY

Newly surveyed lands comprised in sixty-three townships were made available for homestead entry in the following land agencies:—

Manitoba—Dauphin, in 24 townships; Winnipeg, 10; total, 34.

Saskatchewan—Battleford, in 2 townships; Prince Albert, 4; total, 6.

Alberta—Peace River, in 8 townships; Edmonton, 1; Calgary, 4; Grande Prairie, 4; total, 17.

British Columbia—New Westminster, in 2 townships; Kamloops, 4; total, 6.

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STATEMENT A—Letters patent issued, covering Dominion Lands in Manitoba, Saskatchewan, Alberta, Northwest Territories, British Columbia, and the Yukon Territory.

No.	Nature of Grant	From April 1, 1922, to March 31, 1923		From April 1, 1921, to March 31, 1922	
		Patents	Acres	Patents	Acres
1	British Columbia homesteads	143	16,214	202	21,922
2	British Columbia sales	21	789	15	1,276
3	Coal lands sales	1	288	.....	.....
4	Coal surface sales	1	40	.....	.....
5	Homesteads, Peace River Block	73	11,386	87	13,850
6	Homesteads	4,609	718,649	9,363	1,464,675
7	Hudson's Bay Co.	1	147	5	1,036
8	Licenses of occupation	56	3,371	10	410
9	Manitoba Act grants	1	40	.....	.....
10	Military bounty grants	.....	.....	2	319
11	Military homesteads	.....	.....	2	632
12	Mining lands sales	13	607	14	653
13	Mineral rights (80 acres)	1	.....	12	.....
14	North West half-breed grants	7	1,366	4	723
15	Parish sales	5	442	6	508
16	Petroleum and Natural Gas, surface sales	1	7	.....	.....
17	Pre-emption sales	561	88,320	1,481	234,393
18	Purchased homesteads	95	13,975	178	26,140
19	Quit claim, sales	8	266	20	869
20	Quit claim, special grants	48	7,189	58	7,546
	Railways—				
21	Alberta and Great Waterways Railway Co.	68	1,117	1	7
22	Calgary and Edmonton Railway Co.	2	317	.....	.....
23	Canadian Northern Railway Co.	135	792,005	20	2,191
24	Canadian Northern Pacific Railway Co.	1	2	6	66
25	Canadian Northern Saskatchewan Railway Co.	2	17	2	14
26	Canadian Northwestern Railway Co.	22	302	10	90
27	Canadian Pacific Railway grants	19	1,608	18	126
28	Canadian Pacific Railway roadbed and station grounds	11	88	11	135
29	Central Canada Railway Co.	4	26	9	133
30	Edmonton, Dunvegan and British Columbia Railway Co.	2	26	14	170
31	Grand Trunk Pacific Railway Co.	1	12	.....	.....
32	Grand Trunk Pacific Branch Lines Co.	6	68	1	1
33	Kettle Valley Railway Co.	9	250	.....	.....
34	Manitoba and Northwestern Railway Co.	1	3	.....	.....
35	Manitoba and Southwestern Colonization Railway Co.	.....	.....	2	206
36	Nicola, Kamloops and Similkameen Railway Co.	12	28	2	15
37	Sales	260	14,398	348	33,755
38	Sales, Peace River Block	1	14	1	61
39	School lands sales	332	54,024	827	161,649
40	School lands, special grants	.....	.....	1	12
41	Soldier grants	141	21,490	63	10,015
42	Special grants	291	33,716	301	40,530
43	Yukon Territory homesteads	1	160	2	320
44	Yukon Territory sales	7	192	18	71
	Totals	6,973	1,782,959	13,116	2,024,519

STATEMENT B—Letters patent issued, Dominion Lands in Manitoba

No.	Nature of Grant	From April 1, 1922, to March 31, 1923		From April 1, 1921, to March 31, 1922	
		Patents	Acres	Patents	Acres
1	Homesteads	970	149,243	2,063	321,308
2	Hudson's Bay Co.	.....	.....	1	160
3	Manitoba Act grants	1	40	.....	.....
4	Mining lands sales	9	407	8	361
5	Parish sales	4	397	6	508
6	Pre-emption sales	1	160	2	320
7	Quit claim, sales	.....	.....	2	107
8	Quit claim, special grants	6	590	8	421
	Railways—				
9	Canadian Northern Railway Co.	5	14	7	45
10	Canadian Pacific Railway roadbed and station grounds	3	5	6	37
11	Manitoba Southwestern Colonization Railway Co.	.....	.....	2	206
12	Sales	47	3,288	71	2,344
13	School lands sales	55	9,814	129	23,839
14	Soldier grants	14	2,187	1	154
15	Special grants	85	11,063	89	12,365
	Totals	1,200	177,208	2,395	362,175

STATEMENT C—Letters patent issued, Dominion Lands in Saskatchewan

No.	Nature of Grant	From April 1, 1922, to March 31, 1923		From April 1, 1921, to March 31, 1922	
		Patents	Acres	Patents	Acres
1	Homesteads	1,865	292,228	3,638	570,939
2	Hudson's Bay Co.	.....	.....	1	408
3	Licenses of occupation	9	30	1	1
4	Military homesteads	.....	.....	1	320
5	Mining lands sales	.....	.....	5	239
6	Mineral rights	.....	.....	4	.....
7	North West half-breed grants	6	1,286	2	403
8	Pre-emption sales	456	71,859	952	150,675
9	Purchased homesteads	71	10,741	115	17,762
10	Quit claim, sales	5	101	13	495
11	Quit claim, special grants	41	6,439	33	4,544
	Railways—				
12	Canadian Northern Railway Co.	128	791,961	13	2,146
13	Canadian Northern Saskatchewan Railway Co.	2	17	2	14
14	Canadian Pacific Railway grants	1	14	9	102
15	Canadian Pacific Railway roadbed and station grounds	1	10	.....	.....
16	Grand Trunk Pacific Branch Lines Co.	.....	.....	1	1
17	Manitoba and Northwestern Railway Co.	1	3	.....	.....
18	Sales	87	3,989	127	6,735
19	School lands sales	188	34,513	511	110,388
20	School lands, special grants	.....	.....	1	12
21	Soldier grants	72	11,310	37	5,873
22	Special grants	120	13,217	85	11,986
	Totals	3,053	1,237,718	5,551	883,043

STATEMENT D—Letters patent issued, Dominion Lands in Alberta

No.	Nature of Grant	From April 1, 1922, to March 31, 1923		From April 1, 1921, to March 31, 1922	
		Patents	Acres	Patents	Acres
1	Coal lands sales	1	288	.....	.....
2	Coal surface sales	1	40	.....	.....
3	Homesteads	1,774	277,178	3,662	572,428
4	Hudson's Bay Co	1	147	3	468
5	Licenses of occupation	47	3,341	9	409
6	Military bounty grants	.....	.....	2	319
7	Military homesteads	.....	.....	1	312
8	Mining lands sales	.....	.....	1	53
9	Mineral rights (80 acres)	1	.....	8	.....
10	North West half-breed grants	1	80	2	320
11	Parish sales	1	45	.....	.....
12	Petroleum and Natural Gas, surface sales	1	7	.....	.....
13	Pre-emption sales	104	16,301	527	83,398
14	Purchased homesteads	22	3,203	55	8,252
15	Quit claim, sales	3	165	5	267
16	Quit claim, special grants	1	160	17	2,581
	Railways—				
17	Alberta and Great Waterways Railway Co.	68	1,117	1	7
18	Calgary and Edmonton Railway Co	2	317	.....	.....
19	Canadian Northern Railway Co	2	30	.....	.....
20	Canadian Northern Western Railway Co	22	302	10	90
21	Canadian Pacific Railway grants	17	1,580	8	14
22	Central Canada Railway Co	4	26	9	133
23	Edmonton, Dunvegan and British Columbia Railway Co	2	26	14	170
24	Grand Trunk Pacific Railway Co	1	12	.....	.....
25	Grand Trunk Pacific Branch Lines Co	6	68	.....	.....
26	Sales	112	6,739	135	24,378
27	School lands sales	89	9,697	187	27,422
28	Soldier grants	50	7,644	25	3,988
29	Special grants	68	7,779	111	14,840
	Totals	2,401	336,292	4,792	739,849

STATEMENT E—Letters patent issued, Dominion Lands in British Columbia

No.	Nature of Grant	From April 1, 1922, to March 31, 1923		From April 1, 1921, to March 31, 1922	
		Patents	Acres	Patents	Acres
1	British Columbia homesteads	143	16,214	202	21,922
2	British Columbia sales	21	789	15	1,276
3	Homesteads, Peace River Block	73	11,386	87	13,850
4	Purchased homesteads	2	31	8	126
5	Railways——				
5	Canadian Northern Pacific Railway Co	1	2	6	66
6	Canadian Pacific Railway grants	1	14	1	10
7	Canadian Pacific Railway roadbed and station grounds	7	73	5	98
8	Kettle Valley Railway Co	9	250	.....	.....
9	Nicola, Kamloops and Similkameen Railway Co	12	28	2	15
10	Sales, Peace River Block	1	14	1	61
11	Soldier grants	5	349	.....	.....
12	Special grants	10	1,201	15	1,337
	Totals	285	30,351	342	38,761

STATEMENTS F and G—Letters patent issued covering Dominion Lands

F—In the Yukon Territory

No.	Nature of Grant	1922–23		1921–22	
		Patents	Acres	Patents	Acres
1	Yukon Territory homesteads	1	160	2	320
2	Yukon Territory sales	7	192	18	71
	Totals	8	352	20	391

G—In the Northwest Territories

1	Mining lands sales	4	200	.....	.....
2	Sales	14	382	15	298
3	Special grants	8	456	1	2
	Totals	26	1,038	16	300

STATEMENT H—Number of Homestead Entries made in the fiscal year 1922-23, Nationality of Homesteaders, and Provinces in which entries were made

Nationality	Provinces				Total
	Manitoba	Saskatchewan	Alberta	British Columbia	
Canadians from Ontario	69	272	227	21	589
" Quebec	28	75	92	3	198
" Nova Scotia	12	35	23	1	71
" New Brunswick	.....	13	21	4	38
" Prince Edward Island	3	13	13	2	31
" Manitoba	151	109	36	3	299
" Saskatchewan	11	159	17	.....	187
" Alberta	1	15	174	3	193
" British Columbia	.....	2	20	18	40
Persons who had previous entry	123	307	396	18	844
Newfoundlanders	.....	5	1	.....	6
Canadians returned from the United States	.....	1	2	.....	3
Americans	67	434	505	13	1,019
English	112	206	230	27	575
Scotch	32	40	49	12	133
Irish	16	25	27	2	70
French	5	10	5	1	21
Belgians	6	7	11	.....	24
Swiss	2	6	10	.....	18
Italians	2	4	3	1	10
Roumanians	2	6	1	2	11
Syrians	1	2	.....	.....	3
Germans	9	7	15	2	33
Austro-Hungarians	133	135	144	8	420
Hollanders	5	4	7	.....	16
Danes (other than Icelanders)	1	13	18	1	33
Icelanders	5	9	1	.....	15
Swedes	16	45	45	1	107
Norwegians	12	54	44	3	113
Russians (other than Finns)	27	39	29	1	96
Finns	14	8	5	3	30
Serbians	.....	1	1	.....	2
Chinese	.....	.....	1	.....	1
New Zealanders	.....	.....	.....	2	2
Hindoos	.....	.....	.....	1	1
Greeks	1	1	.....	.....	2
Poles	13	41	24	.....	78
South Americans	.....	1	1	.....	2
Australians	.....	.....	1	.....	1
Mexicans	.....	.....	1	.....	1
South Africans	.....	.....	7	.....	7
Totals	879	2,104	2,207	153	5,343

Number of souls represented by above entries, 12,768.

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STATEMENT I—Number of Homestead Entries made in the Provinces of Manitoba, Saskatchewan, Alberta, and British Columbia during the fiscal year 1922-23, by persons coming from the United States

State	Provinces					State	Provinces				
	Manitoba	Saskatchewan	Alberta	British Columbia	Total		Manitoba	Saskatchewan	Alberta	British Columbia	Total
Arkansas		2			2	Brought forward	52	352	317	6	727
California			5		5						
Carolina, N		3	4		7	Nebraska		8	25		33
Colorado	1	1	1		3	New Hampshire			1		1
Connecticut		1			1	New Jersey	1		2		3
Dakota, N	15	78	30		123	New Mexico			1		1
Dakota, S		26	27		53	New York	1	6	13	1	21
Delaware		1	1		2	Ohio	2	8	8	1	19
Idaho	2	3	10		15	Oklahoma		4	25		29
Illinois	3	20	31		54	Oregon	1	3	15	1	20
Indiana		8	7		15	Pennsylvania	1	9	14		24
Iowa	3	30	32	1	66	Rhode Island		2	2		4
Kansas		9	14		23	Tennessee		1	7		8
Kentucky		2			2	Texas	1	2	5		8
Maine		2	2		4	Utah			1		1
Massachusetts		6	6		12	Vermont		2	1		3
Michigan	5	23	45	1	74	Virginia	1		6		7
Minnesota	22	122	64	3	211	Virginia, W		1	1		2
Mississippi	1	1	2		4	Washington		8	24		32
Missouri		6	21		27	Wisconsin	6	24	37	4	71
Montana		8	15	1	24	Wyoming	1	4			5
Carried forward	52	352	317	6	727	Totals	67	434	505	13	1,019

STATEMENT J—Number of Homestead Entries made during the fiscal year as compared with the previous fiscal year

Agency	Manitoba		Saskatchewan		Alberta		British Columbia		Total
	1922-23	1921-22	1922-23	1921-22	1922-23	1921-22	1922-23	1921-22	
Battleford			386	343					
Calgary					143	341			
Dauphin	363	611							
Edmonton					1,586	1,664			
Grande Prairie					172	312			
Kamloops							58	11	
Lethbridge					20	149			
Moose Jaw			77	334					
New Westminster							50	41	
Peace River					286	462			
Prince Albert			1,219	1,228					
Revelstoke							45	48	
Saskatoon			361	548					
Swift Current			61	280					
Winnipeg	516	877							
Fiscal year 1921–22									7,349
Fiscal year 1922–23									5,343
Net decrease									2,006
Totals	879	1,488	2,104	2,733	2,207	2,928	153	200	

STATEMENT K—Number of Soldier Grant Entries made during the fiscal year 1922-23 as compared with the previous fiscal year

Agency	Manitoba		Saskatchewan		Alberta		British Columbia		Total
	1922-23	1921-22	1922-23	1921-22	1922-23	1921-22	1922-23	1921-22	
Battleford			45	95					
Calgary					28	80			
Dauphin	398	214							
Edmonton					184	302			
Grande Prairie					47	96			
Kamloops							10	18	
Lethbridge					2	27			
Moose Jaw			8	42					
New Westminster							34	43	
Peace River					67	109			
Prince Albert			255	298					
Revelstoke							2	7	
Saskatoon			43	79					
Swift Current			19	76					
Winnipeg	70	169							
Fiscal year 1921-22									1,655
Fiscal year 1922-23									1,212
Net decrease									443
Totals	468	383	370	590	328	614	46	68	

REPORT OF THE CONTROLLER OF SCHOOL LANDS, W. T. ROLLINS

There being no particular demand for lands in the Prairie Provinces, owing to the financial depression, no general auction sales of school lands were held during the fiscal year. The following areas were however disposed of by public auction and by private sale.

MANITOBA

How disposed of	Area acres	Value	Average per acre
Public Auction	2·02	$ 973 64	$ 482 00
Soldier Settlement Board	320·00	3,200 00	10 00
Railway companies	10·05	100 50	10 00
Total	332·07	4,274 14	12 87

SASKATCHEWAN

Soldier Settlement Board	3,844·68	$52,647 18	$ 13 69
Railway companies	28·09	533 26	18 98
Dried up areas	282·69	1,420 55	5 04
Total	4,155·46	54,600 99	13 14

ALBERTA

Public auction	4·00	$ 440 00	$ 110 00
Railway companies	131·11	1,850 88	14 11
School sites	10·00	100 00	10 00
Total	145·11	2,390 88	16 47

The following statement shows the approximate areas and values of school lands and values of town lots disposed of down to March 31, 1923, after making deductions for cancelled sales, etc.

Province	Area Acres	Value	Average per acre	Value of town lots
Manitoba	661,011	$ 6,393,317 62	$ 9·67	$ 4,793 40
Saskatchewan	1,435,819	24,308,374 85	16·93	13,226 00
Alberta	910,482	12,656,504 60	13·90	39,680 00

The number of permits and leases issued, the number of leases in good standing and the combined revenue derived therefrom for the provinces of Manitoba, Saskatchewan and Alberta for the fiscal year is as follows—

	Permits issued	Leases issued	Leases in good standing	Revenue derived
Grazing	5,484	.....	.....	$103,221 60
Coal	.....	30	100	18,707 94
Petroleum and gas	.....	215	595	17,917 31
Hay	2,918	3	20	8,007 21
Cultivation	292	.....	.....	19,179 10
Timber	233	.....	.....	12,780 65
Special	.....	5	17	1,086 56

Registration Fees.—During the fiscal year 359 assignments of sales and leases were filed and registered, covering the provinces of Manitoba, Saskatchewan and Alberta. The revenue derived from this source amounted to $1,024.15.

The total net revenue collected for the fiscal year was as follows:—

Manitoba	$ 104,990 33
Saskatchewan	1,015,266 00
Alberta	394,247 11
Total	$ 1,514,503 44

The revenues collected for the fiscal year (less principal moneys and less expenditure) and paid over to the provinces of Manitoba, Saskatchewan, and Alberta were as follows:—

Province	Revenues other than principal moneys	Expenditure	Amount paid to provinces
Manitoba	$ 39,415 50	$ 15,573 78	$ 24,041 72
Saskatchewan	460,308 93	46,971 43	413,337 50
Alberta	218,954 47	32,601 57	186,352 90

The balance standing to the credit of the School Lands Fund for each province as on March 31, 1923, and the interest paid on the investment for the fiscal year 1922-23 were as follows:—

Province	Total amount at credit of fund	Amount invested in debenture stock	Interest paid on investments, fiscal year, 1922–23
Manitoba	$ 5,701,414 57	$ 5,701,000 00	$281,750 00
Saskatchewan	12,582,471 91	12,582,000 00	601,350 00
Alberta	6,646,344 58	6,646,000 00	323,550 00

Statements herewith lettered A, B, and C, respectively, show the revenue collected from each of the provinces of Manitoba, Saskatchewan, and Alberta for the fiscal year, duly classified.

Statements herewith lettered D, E, and F, respectively, show the balance standing to the credit of the School Lands Fund for each province as on March 31, 1923, after deducting amounts invested in Dominion of Canada Debenture Stock, as provided for by Order in Council.

STATEMENT A—Manitoba School Lands—Revenue collected for fiscal year

Source	Gross totals		Refunds	Net totals
	$ cts.	$ cts.	$ cts.	$ cts.
Sales:—				
Principal	65,720 60			
Interest	27,581 81	93,302 41	145 77	93,156 64
Cultivation		950 11		950 11
Grazing rent		3,135 55	149 92	2,985 63
Timber	4,837 91			
Less office fees transferred to Dominion Lands	49 00	4,788 91	12 75	4,776 16
Hay	3,153 92			
Less office fees transferred to Dominion Lands	769 00	2,384 92	101 20	2,283 72
Petroleum and Natural Gas		647 05		647 05
Registration fees				
Transferred from Dominion Lands	124 00	124 00		124 00
Miscellaneous		67 02		67 02
Totals		105,399 97	409 64	104,990 33

STATEMENT B—Saskatchewan School Lands—Revenue collected for fiscal year

Source	Gross totals		Refunds	Net totals
	$ cts.	$ cts.	$ cts.	$ cts.
Sales:—				
Principal	557,800 65			
Interest	274,185 35	931,986 00	3,574 69	928,411 31
Cultivation		18,026 34	798 35	17,227 99
Grazing rent		59,677 69	887 84	58,789 85
Timber	2,002 45			
Less office fees transferred to Dominion Lands	58 00	1,944 45	57 00	1,887 45
Hay	4,966 69			
Less office fees transferred to Dominion Lands	1,342 00	3,624 69	205 69	3,419 00
Coal		3,940 47	8 59	3,931 88
Petroleum and Natural Gas		276 68		276 68
Registration fees				
Transferred from Dominion Lands	315 00	315 00		315 00
Miscellaneous		1,067 87	61 03	1,006 84
Totals		1,020,859 19	5,593 19	1,015,266 00

STATEMENT C—Alberta School Lands—Revenue collected for fiscal year

Source	Gross totals		Refunds	Net totals
	$ cts.	$ cts.	$ cts.	$ cts.
Sales:—				
Principal	186,635 92			
Interest	140,203 95	326,839 87	16,055 68	310,784 19
Cultivation		1,184 80	183 80	1,001 00
Grazing rent		42,528 24	1,082 12	41,446 12
Timber	6,289 44			
Less office fees transferred to Dominion Lands	126 00	6,163 44	46 40	6,117 04
Hay	3,252 02			
Less office fees transferred to Dominion Lands	807 00	2,445 02	140 53	2,304 49
Coal		14,954 44	178 38	14,776 06
Petroleum and Natural Gas		17,202 38	208 80	16,993 58
Registration fees	96 00			
Transferred from Dominion Lands	585 15	681 15	3 00	678 15
Miscellaneous		191 48	45 00	146 48
Totals		412,190 82	17,943 71	394,247 11

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STATEMENT D—Revenue and Expenditure, Manitoba School Lands, 1922-23.

Particulars	Dr.	Cr.
	$ cts.	$ cts.
By balance on April 1, 1922		839 74
" sales		93,156 64
" cultivation permits		950 11
" timber dues, hay permits, grazing rental, petroleum, and miscellaneous		10,759 58
" registration fees		124 00
" interest on fund		1,688 11
To cost of management at Ottawa	7,040 82	
" salaries, printing, advertising, and general expenses	8,332 96	
" revenue and interest paid to Manitoba Government	24,041 72	
" interest on fund paid to Manitoba Government	1,688 11	
" investment in 5 p.c. debenture stock	66,000 00	
" balance, March 31, 1923	414 57	
	107,518 18	107,518 18

STATEMENT E—Revenue and Expenditure, Saskatchewan School Lands, 1922-23.

Particulars	Dr.	Cr.
	$ cts.	$ cts.
By balance on April 1, 1922		514 84
" sales		928,411 31
" cultivation permits		17,227 99
" timber dues, hay permits, grazing rental, petroleum, coal and miscellaneous		69,311 70
" registration fees		315 00
" interest on fund		14,382 41
To cost of management at Ottawa	21,972 56	
" salaries, printing, advertising and general expenses	24,998 87	
" revenue and interest paid to Saskatchewan Government	413,337 50	
" interest on fund paid to Saskatchewan Government	14,382 41	
" investment in 5 p.c. debenture stock	555,000 00	
" balance, March 31, 1923	471 91	
	1,030,163 25	1,030,163 25

STATEMENT F—Revenue and Expenditure, Alberta School Lands, 1922-23.

Particulars	Dr.	Cr.
	$ cts.	$ cts.
By balance, on April 1, 1922		51 94
" sales		310,784 19
" cultivation permits		1,001 00
" timber dues, hay permits, grazing rental, coal, petroleum, and miscellaneous		81,783 77
" registration fees		678 15
" interest on fund		5,750 48
To cost of management at Ottawa	15,935 65	
" salaries, printing, advertising, and general expenses	16,665 92	
" revenue and interest paid to Alberta Government	186,352 90	
" interest on fund paid to Alberta Government	5,750 48	
" investment in 5 p.c. debenture stock	175,000 00	
" balance, March 31, 1923	344 58	
	400,049 53	400,049 53

REPORT OF THE SUPERINTENDENT, MINING LANDS BRANCH, H. H. ROWATT

The total revenue of the Mining Lands Branch derived from all sources during the fiscal year 1922-23 amounted to $798,712.89. This revenue was derived from fees, royalties, and rentals, as mining rights are no longer permanently alienated from the Crown but are disposed of under terminable leases.

The decrease in revenue was due to the fact that collections made for certain natural resources in the Yukon Territory are now credited to another branch (the Northwest Territories and Yukon Branch), and that expenditures incurred by lessees in the search for oil in the western provinces, amounting to $570,806.95, were accepted in satisfaction of the rental of the leases affected.

Statements lettered A and B, showing in different forms how the revenue is made up, will be found at the end of this report. The statement lettered A shows the total revenue, and the statement lettered B shows the revenue collected at each agency, including the Yukon Territory.

The revenue of the Yukon Territory for the fiscal year, derived from mining rights only, amounted to $74,275.19.

The report for the fiscal year from the Gold Commissioner of the Yukon Territory, dealing with mining in that territory, is submitted.

Petroleum and Natural Gas.—There are now in force under the regulations 7,402 petroleum and natural gas leases, embracing a total area of 1,750,391 acres, distributed as follows: In Manitoba, 126 leases, comprising 30,780 acres; in Saskatchewan, 160 leases, comprising 92,444 acres; in Alberta, 6,113 leases, comprising 1,467,560 acres; in British Columbia, 1,003 leases, comprising 159,607 acres; and in the North West Territories, 144 leases, comprising 98,612 acres, and 123 permits, comprising 191,416 acres. The total area under lease and permit in the North West Territories is 290,028 acres. The total revenue derived from petroleum lands during the year amounted to $306,688.82.

The total number of leases which have been issued under the provisions of the petroleum and natural gas regulations is 26,185, and the total revenue derived from this source since the beginning is $3,722,922.77. The total expenditure applied in lieu of rental during the same period was $1,310,214.75.

Natural gas in large quantity in widely different fields has been discovered, and its use for domestic and industrial purposes in different parts of the western provinces is increasing. As the gas produced in the Turner Valley field of Alberta contains gasolene in commercial quantity, an absorption plant for the recovery of such product has been installed and is in active operation, all the gasolene content being extracted before the gas is piped to Calgary for domestic consumption.

The discovery of oil in quantity in the Keven-Sunburst field of northern Montana, adjoining the International Boundary, has given a very considerable impetus to prospecting in southern Alberta.

Coal.—Regulations for the sale of coal mining lands were withdrawn a number of years ago and all sales made under the provisions of such regulations have now been completed. The total amount of revenue collected from the sale of coal mining lands was $1,565,632.08.

Coal Leases.—The total number of coal mining leases in force at the close of the fiscal year was 707, comprising a total area of 263,214 acres, distributed as follows: In Manitoba, 1 lease, comprising 80 acres; in Alberta, 614 leases, comprising 247,012 acres; in Saskatchewan, 89 leases, comprising 11,992 acres; in British Columbia, 2 leases, comprising 4,090 acres; and in the Yukon Territory, 1 lease, comprising 40 acres. The total number of coal mining leases

issued during the year was 124, comprising 25,244 acres. The total revenue collected during the year for rental of coal mining rights was $178,297.54.

Royalty on Coal.—Under the regulations governing the issue of leases to mine coal, the royalty is fixed at five cents per ton of 2,000 pounds on the merchantable output of the mine. The following is a statement showing the amount collected on account of royalty on coal mined from lands in the western provinces, the Northwest Territories, and the Yukon Territory, respectively, during each year since the regulations came into effect:—

Year	Alberta	Saskatchewan	British Columbia	Yukon Territory	Northwest Territories
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1903–04	56 90	Nil	Nil	22 40	Nil
1904–05	2,822 00	110 70	"	47 00	"
1905–06	2,379 75	47 10	"	569 33	"
1906–07	3,865 26	74 20	"	517 34	"
1907–08	7,621 67	4 30	"	1,543 38	"
1908–09	5,322 39	358 11	"	371 73	"
1909–10	153,559 98	1,672 50	3 00	136 38	"
1910–11	218,932 88	2,184 74	3 50	125 00	"
1911–12	104,894 55	2,034 74	2 78	390 00	"
1912–13	142,997 79	3,145 72	6 95	1,069 11	"
1913–14	147,198 75	2,123 43	19 35	Nil	"
1914–15	104,489 77	1,880 06	4 90	"	"
1915–16	67,190 17	2,601 52	3 50	"	5.10
1916–17	149,447 82	2,228 08	8 92	"	Nil
1917–18	144,634 75	4,046 55	Nil	"	6.00
1918–19	175,687 66	3,193 05	"	"	Nil
1919–20	181,641 80	2,573 32	"	"	"
1920–21	190,545 80	2,703 41	"	"	"
1921–22	185,436 88	3,309 86	"	"	"
1922–23	171,723 83	3,035 18	"	"	"

The total revenue derived from coal mining lands on account of rental, royalty, and application fees, during the fiscal year, amounted to $355,132.55.

Quartz and Placer Mining.—During the fiscal year 1,331 entries for quartz and 356 entries for placer mining claims were granted by the mining recorders in Manitoba, Saskatchewan, and Alberta, and by the mining recorder for the Northwest Territories. The total revenue derived from these claims was $50,494.37.

In the Yukon Territory during the fiscal year 78 entries for placer mining claims, 121 relocations and 2,553 renewals were recorded. The revenue from these sources and from fees for registering documents in connection with mining properties was $42,746. During the same period 382 quartz mining claims were granted in the said Territory, and 1,397 renewals issued, the revenue derived from which amounted to $17,053.

The rich silver-lead deposits of the Mayo-Keno District of the Yukon Territory are being rapidly developed, nothwithstanding the remoteness of the region in which these deposits lie and the difficulties of transportation. A large quantity of high grade ore was mined during the winter months and prepared for shipment to the Pacific smelters with the opening of navigation. The cost of the mining, transportation, and treatment is about $100 per ton of ore shipped. Development of the mineral deposits of northern Manitoba is also progressing.

Quarrying.—The number of leases now in force, issued under the provisions of the regulations, is 206, distributed as follows: In Manitoba, 77 leases, comprising 1,984 acres; in Saskatchewan, 32 leases, comprising 1,011 acres; in Alberta, 60 leases, comprising 3,164 acres; and in British Columbia, 37 leases,

comprising 1,109 acres. The total revenue collected during the fiscal year on account of quarrying and clay leases, including the application fees, amounted to $6,506.16.

Alkali.—The alkali regulations apply to natural accumulations of soluble mineral salts, comprising for the most part sodium and magnesium sulphates found in a comparatively pure condition in certain of the sloughs and shallow lakes of southern Saskatchewan. Under the provisions of these regulations 16 leases have been granted, comprising a total area of 4,718 acres, and the revenue derived from this source during the fiscal year amounts to $1,388.85.

Royalty on Gold Mined in the Yukon Territory.—The total amount collected up to March 31, 1923, for royalty on gold, the output of placer mining claims in the Yukon Territory, after deducting the exemption at one time allowed under the regulations, was $4,842,666.31, of which amount $25,819.04 was collected during the last fiscal year. For the purpose of estimating royalty, the gold is valued at $15 an ounce, which is much below its real value.

Assuming that gold on which royalty has been paid has an average value of $20 per ounce, the value of gold produced from placer mining operations in the Yukon Territory, up to March 31 last, might be placed at $161,375,000.

Dredging.—Ten leases to dredge for minerals in the beds of rivers in the Yukon Territory are now in force, including a total river stretch of 39.43 miles. The total revenue derived from this source up to March 31, 1923, amounted to $201,531.42, of which amount $144.30 was collected during the fiscal year just closed. These dredging leases comprise portions of the Yukon, Fortymile, and Klondike rivers.

For the purpose of gold recovery there are at present five dredges engaged in mining in the Yukon Territory, all of which are being operated by hydro-electric motive power. Two of these dredges are of large capacity, capable of excavating and treating 15,000 cubic yards of gravel per day.

Sixteen leases to dredge for minerals in the submerged beds of rivers in the provinces of Manitoba, Saskatchewan, and Alberta are now in force, covering a total frontage of sixty-nine miles. Of these leases, thirteen are in Alberta and include sixty-two miles; two in Saskatchewan, including six miles; and one in Manitoba, including one mile. The total revenue derived from this source up to March 31, 1923, amounted to $51,187.47, of which amount $460 was collected during the past fiscal year.

Hydraulic Mining.—The regulations for the disposal of hydraulic mining locations in the Yukon Territory were withdrawn by an Order in Council dated February 4, 1904. The leases then in force were not affected by such withdrawal. There are still five hydraulic mining locations held under leases, comprising a total area of 15.03 square miles. Rentals, amounting to $161,237.43, have been collected on account of such locations and the amount paid on this account during the fiscal year was $5,436.35.

Water Rights.—There are now in force in the Yukon Territory 488 grants to divert water for mining purposes under the provisions of the Yukon Placer Mining Act, aggregating a total of 120,445 miner's inches.

Tar Sands.—The total revenue derived from the disposal of tar-sand rights amounts to $39,766.62. There are four leases in force, comprising a total area of 5,566.5 acres in the province of Alberta. Research work is still being conducted for the discovery of the most efficient method for the commercial recovery of oil and other hydro-carbons from these sands. The revenue for the current year derived from this source amounts to $1,487.50.

REPORT OF THE GOLD COMMISSIONER, DAWSON, YUKON TERRITORY, REGARDING MINING

Placer Gold Mining.—The export tax was paid on 68,850·68 ounces of gold during the fiscal year, and as practically all the gold mined is exported, this amount may for practical purposes be considered the total amount mined. Production from the hydraulic mines was very materially affected by the exceptionally early and severe frosts which entirely shut off the water supply before the cuts could be cleaned up in a number of instances.

Yukon Gold Company.—This company operated one dredge on Gold Run creek during a dredging season of 130 days from May 25 to September 29, handling 578,395 cubic yards of material.

Eight hydraulic mines were operated at the following points:—Adams Hill, King Solomon, Oro Fino Hill, Trail Gulch, Lovett-Hosford, American Gulch, Cheechaco and Gold Hill, and 1,586,666 cubic yards were handled.

The hydro-electric power plant of the company on the Twelvemile river furnished adequate power for the dredging and other operations of the company requiring power. The daily average of men employed during the mining season (April to October) was as follows:—dredges and thawing, 47; hydraulic mines, 42; ditches, 31; otherwise employed, 23; total, 143.

Burrall and Baird, Limited.—This company operated dredges Canadian Nos. 2 and 4 in the Klondike valley on Hydraulic Mining Leasehold No. 18 and Dredging Lease No. 24. Dredge No. 2 operated from the 14th of May to the 23rd of September, handling 1,559,329 cubic yards of material. Dredge No. 4 operated from the 12th of May to the 14th of December, handling 2,260,114 cubic yards.

In addition to these major operations, prospecting was carried on with a Keystone drill and a prospecting tunnel was driven 940 feet into Jackson Hill with a view of carrying on hydraulic operations at this point during the coming summer.

The pumping plant of the company near the mouth of Hunker creek was in operation during the summer. The company's machine shops at Bear creek, and other auxiliary work were carried on as usual. An average of 76 men was employed by this company throughout the season.

The New North West Corporation, Limited.—This company operated dredge North West No. 1 on Below Lower Discovery, Dominion creek from the 27th of May to the 8th of November, and dredged in that period 373,064 cubic yards of material. Dredge North West No. 2 operated on the Granville Flat on Dominion creek from the 3rd of June to the 7th of November, and handled 582,296 cubic yards of material.

The hydro-electric power plant of the company at the North Fork of the Klondike river furnished an adequate supply of power for the operation of these dredges, machine shops, etc., and also the dredges of the Burrall and Baird, Limited, operating in the Klondike valley. An average of 115 men was employed by this company throughout the season.

Highet Mining Company, Limited.—This company, the successor of the Titus Dredging Company, operated their dredge on Highet creek throughout the season An average of 20 men was employed in this operation.

Other Placer Operations.—Mr. Neville A. D. Armstrong carried on extensive prospecting operations on Russell creek, a tributary of the MacMillan river, and reports a large area of ground suitable for dredging operations. Further work will be carried on during the coming summer.

Collins, Weinburg and Collins operated their ground on Miller creek in an extensive manner, both winter operations, and hydraulicking during the summer, being carried on with very satisfactory results.

In general the individual operations carried on throughout the various parts of the Camp were satisfactory to the operators.

Lode Mining.—The confidence expressed in last year's report on the future development of silver-lead mining on Keno Hill and vicinity in the Upper Stewart District is amply borne out by the past year's operations.

The development on the Keno Hill, Limited property has been satisfactory. The company has mined and hauled to Mayo for shipment on the opening of navigation approximately 4,300 tons of high grade ore, and in addition has blocked out ore for another year's operations on a larger scale. Prospecting on the "Friendship" and "Sadie" claims owned by this company has opened up bodies of high grade ore. Eighty-five men were employed by the company in these operations.

The properties purchased by Mr. F. W. Bradley, known as the Wernecke Group, have been taken over by the Treadwell Yukon Company, Limited, organized for that purpose. Development work on these properties has been vigorously prosecuted throughout the year, the results exceeding all expectations. The plans formulated by the company in September last contemplated mining and shipping 2,000 tons of ore during the present winter. Such large high grade ore bodies, however, were developed during the winter that the company was able to mine and haul to Mayo approximately 4,500 tons of ore, in addition to which large quantities of shipping ore were mined that on account of lack of transportation it has not been possible to haul to Mayo.

This company has revolutionized winter transportation in this country by the introduction of tractors. One ten-ton tractor has hauled 4,500 tons of ore forty-five miles and as a back haul freighted wood for use in and about the mine. As much as 80 tons of ore has been hauled to Mayo in one load. While exact figures are not available, it is assumed that ore may be hauled by tractors for 25 per cent of the cost of hauling with horses. Tractors will be used exclusively for hauling ore in the future.

The two companies referred to are the only large shippers of ore, but high grade ore has been developed on a number of other properties, and shipments averaging from 25 to 100 tons were hauled to the landing at Mayo for shipment.

In general, it may be said that the development during the year has been entirely satisfactory. The plans now being made for next year contemplate the mining and hauling to Mayo of approximately 15,000 tons of high grade ore, and it is confidently expected by the operators that in the extraction of these ores sufficient milling ore will be developed to warrant the installation of a mill.

Coal.—The Five Fingers Coal Company operated a mine at the Tantalus butte on the opposite side of the river from the old Five Fingers coal mine, and shipped a limited quantity of coal to Dawson. They anticipate having sufficient coal on the market this year to meet all requirements.

SESSIONAL PAPER No. 12

STATEMENT A—Statement of receipts on account of coal and minerals in the western provinces and territories for the fiscal year.

Petroleum	$ 306,688 82
Quartz rental	938 66
Coal mining fees	2,076 00
Coal royalty	174,759 01
Coal rental	178,297 54
Mining fees (quartz and placer)	92,301 71
Hydraulic leases (Yukon)	5,436 35
Dredging leases (western provinces)	460 00
Dredging leases (Yukon)	144 30
Gold export tax	25,819 04
Free certificates, export of gold	16 50
Stone quarrying	6,506 16
Registration and office fees	1,994 60
Gypsum	50 00
Alkali	300 55
Potash	206 00
Tar sands	1,507 50
Sand stone and gravel permits	35 00
Improvements	350 00
Interim receipt account	808 00
Miscellaneous	17 15
Total	$ 798,712 89

STATEMENT B—Statement showing the total amount of revenue from minerals collected at each agency in the western provinces and territories for the fiscal year.

Battleford	$ 978 22
Calgary	176,224 82
Dauphin	7,199 65
Edmonton	198,009 95
Grande Prairie	14,108 27
Kamloops	379 93
Lethbridge	210,665 20
Moose Jaw	7,461 38
New Westminster	33,300 72
The Pas (Manitoba)	20,872 40
The Pas (Saskatchewan)	3,627 00
Peace River	11,832 93
Prince Albert	22 00
Revelstoke	364 20
Saskatoon	1,026 50
Swift Current	7,394 98
Winnipeg	14,071 43
Fort Smith (N.W.T.)	16,898 12
Dawson (Gold Commissioner's office)	47,381 65
Dawson (Royalty Collector's office)	25,755 69
Whitehorse (Mining Recorder's office)	1,073 50
Whitehorse (Royalty Collector's office)	64 35
Total	$798,712 89

REPORT OF THE CONTROLLER, TIMBER AND GRAZING LANDS BRANCH, B. L. YORK

The revenue derived from timber, grazing, and hay lands during the fiscal year ending the 31st March, 1923, amounted to $886,064.37. This is an increase of $162,741.56 over the revenue received for the previous fiscal year.

REVENUE FOR FISCAL YEAR 1922-23

Timber—		
Bonus under license	$ 166,408 37	
Rent "	75,234 00	
Royalty "	281,516 32	
Permit fees, dues and rentals	175,624 81	
Seizure dues	10,115 02	
Scaling fees	6,922 56	
Scale books	78 00	
License fees	1,078 18	
Total for timber		$ 716,977 26

REVENUE FOR FISCAL YEAR 1922-23—*Concluded*

Brought forward		$ 716,977 26
Grazing, hay, etc—		
Grazing	$ 113,896 94	
Hay	17,203 84	
Registration fees	555 66	
Fireguarding dues	35,411 17	
Improvements	2,019 50	
Total for grazing, etc.		$ 169,087 11
Total revenue		$ 886,064 37

The following statements show the total revenue from the Crown timber agencies, the number of mills operated, the quantities of timber manufactured, the area of lands held under license, and the number and area of grazing leases. The report of the Superintendent of Dominion Timber Agencies is also attached.

The revenue from timber, grazing, and hay lands received at the Crown timber agencies, and the number of mills operated under license and permit were as follows:—

Agency	Total Revenue	Number of Mills operating under license	Number of Mills operating under permit
	$ cts.		
Calgary	49,025 05	11	15
Edmonton	112,050 81	31	128
Prince Albert	227,159 75	24	63
Winnipeg	97,736 91	23	35
Kamloops	37,822 36	4	..
New Westminster	178,627 50	33	..
Revelstoke	49,294 64	12	8

TIMBER

The returns of operations show the quantities of lumber and other material manufactured and marketed under license and under permit to be as follows:—

Material	Under License		Under Permit	
	Manufactured	Sold	Manufactured	Sold
Lumber, ft. b. m.	254,042,349	265,108,892	17,784,290	22,244,104
Laths, M	28,816,186	26,973,310	3,947,571	3,958,571
Shingle bolts, cords	35,078	25,638	2,904	.....
Shingles, M	.....	.....	945,250	574,250
Railway ties, number	327,696	453,812	354,615	346,290
Fence-posts, number	107,474	5,325	24,196	7,462
Cordwood, cords	14,121	42,296	3,034	4,256
Lagging, cords	300	271	896	.....
Mine ties, pieces	400	400	.....	.....
Mining timber, linear feet	1,774,987	1,797,425	183,502	868,038
Boom timber and building logs, linear feet	16,110	1,860	9,442	7,972
Piling, poles, and cribbing, linear feet	132,503	48,213	59,351	42,306
Slabs, cords	.....	.....	540	540
Roof poles, number	.....	.....	176	176
Fence rails, number	.....	.....	1,114	1,114
Lath bolts, cords	.....	.....	884	868

The areas of lands held under license and under permit in the provinces of Manitoba, Saskatchewan, Alberta, and British Columbia are as follows:—

Province	Under license	Under permit
	sq. miles	sq. miles
Manitoba	1,024·67	422·57
Saskatchewan	918·51	144·41
Alberta	1,827·65	272·68
British Columbia	1,717·19	14·44
	5,488·02	854·10

During the year 183 berths were granted as follows: 7 license berths, 32 portable sawmill berths, 65 cordwood berths, 73 fire-killed berths, 6 permit berths.

GRAZING

There were 6,980 grazing leases in force during the year covering an area of 6,324,644 acres, made up as follows: Manitoba, 103,046 acres; Saskatchewan, 2,814,913 acres; Alberta, 2,925,582 acres; British Columbia, 499,103 acres. During the year 639 new leases were issued.

REPORT OF SUPERINTENDENT OF DOMINION TIMBER AGENCIES, E. F. STEPHENSON

STATEMENT A—Timber products manufactured by holders of timber berths on Dominion Lands under yearly license and permit during the fiscal year.

LICENSE BERTHS

Agency	Lumber	Lath	Railway ties	Shingle bolts	Round timber	Saw logs	Fence posts
	M.ft.B.M.	M.	No.	Cords	Pieces	Pieces	No.
Calgary	13,467	2,931,900	219,302	.....	1,059,833	320,889	.....
Edmonton	22,525	8,265,876	197,735	.....	384,366	364,290	.....
Kamloops	12,189	.....	873	1,247	61,327	103,845	40,000
New Westminster	117,625	.....	29,513	33,169	48,440	163,566	.....
Prince Albert	41,382	11,867,460	24,486	.....	.....	645,995	.....
Revelstoke	33,272	.....	1,100	662	22,999	282,205	62,911
Winnipeg	13,582	5,750,950	2,346	.....	.....	235,298	.....
Totals	254,042	28,816,186	475,355	35,078	1,576,965	2,116,088	102,911

PERMIT BERTHS

Calgary	530	1,941,650	53,399	.....	7,416	18,694	.....
Edmonton	8,898	1,984,921	263,913	2,363	203,448	171,158	.....
Kamloops	.....	.....	.....	.....	.....	.....	.....
New Westminster	.....	.....	.....	.....	.....	.....	.....
Prince Albert	1,575	1,768,000	13,531	.....	.....	38,894	.....
Revelstoke	409	.....	.....	543	17,547	4,750	.....
Winnipeg	6,373	.....	29,614	.....	.....	165,866	.....
Totals	17,785	3,947,571	360,457	2,906	228,411	399,362	.....
Grand totals	271,826	32,763,757	835,812	39,684	1,805,376	2,515,450	.....
Previous year	230,200	25,587,495	740,270	36,261	4,252,089	2,435,316	.....

STATEMENT B—Timber material cut on Dominion Lands covered by permits issued at the respective Agencies (principally to settlers), during the year.

Agency	Lumber and Logs	Fence Rails	Poles, Number of pieces	Fence Posts	Cord-wood	Rail-way Ties	Poles, tele-graph and Tele-phone	Round Timber	Shingle Bolts	Lath
	Ft. B.M.	No.		No.	Cords	No.	No.	L. ft.	Cords	M.
Battleford	714,597	20,760	5,720	15,125	992	.....	.....	.....	.....	.....
Calgary	5,419,988	21,592	9,430	59,925	4,770	32,116	6,666	8,560,315	100	.....
Dauphin	4,130,231	8,000	1,230	8,378	15,812	5,000	.....	2,320	.....	700
Edmonton	7,865,521	401,738	77,321	147,557	2,057	370,898	9,817	2,726,679	127	250
Grande Prairie	878,284	182,146	36,867	42,355	137	.....	.....	.....	.....	.....
Kamloops	7,014,394	970	.....	102,007	3,380	49,855	23,970	.....	100	.....
Lethbridge	1,071,165	2,975	8,142	36,988	3,840	3,000	4	326,554	.....	.....
Moose Jaw	7,900	2,250	425	6,267	827	.....	.....	.....	.....	.....
New Westminster	4,143,408	.....	.....	.....	310	300	.....	33,955	5,333	.....
Peace River	1,537,374	308,640	31,310	52,435	3,750	5,346	120	.....	.....	.....
Prince Albert	18,381,642	116,880	27,005	130,314	40,411	43,815	70	.....	12	384
Revelstoke	1,157,067	.....	350	75,090	953	16,234	1,234	.....	924	.....
Saskatoon	657,072	2,600	800	14,923	633	.....	.....	.....	.....	.....
Swift Current	89,916	22,238	.....	21,362	2,749	.....	.....	.....	.....	.....
Winnipeg	8,980,829	8,430	2,642	40,487	37,370	20,337	1,300	.....	76	1,850
Totals	62,049,388	1,099,219	201,242	753,213	117,991	546,901	43,181	11,649,823	6,672	3,184
Previous year	56,407,542	1,775,989	327,060	1,056,890	117,706	534,148	108,552	11,410,259	5,870	

STATEMENT D—Number of Hay Permits issued at the respective Crown Timber Offices and the amount of hay covered thereby for the fiscal year.

Agency	Dominion Lands		School Lands		Forestry Lands		Revenue from Hay
	Permits issued	Tons Hay	Permits issued	Tons Hay	Permits issued	Tons Hay	
							$ cts.
Battleford	318	3,415	239	2,920	31	1,549	3,063 49
Calgary	215	4,018	202	2,171	9	190	2,775 97
Dauphin	189	4,488	176	2,341	228	3,575	2,664 00
Edmonton	1,040	8,894	419	4,445	32	1,145	5,005 40
Grande Prairie	394	3,279	89	678	.....	.....	1,430 25
Kamloops	24	120	.....	.....	28	296	176 25
Lethbridge	42	1,221	41	438	1	10	295 16
Moose Jaw	362	5,232	432	4,881	53	1,402	3,312 64
New Westminster	.....	.....	.....	.....	.....	.....	.....
Peace River	405	4,689	62	962	4	356	2,000 04
Prince Albert	398	3,163	180	1,415	76	2,183	2,422 80
Revelstoke	.....	.....	.....	.....	.....	.....	.....
Saskatoon	234	2,506	357	2,670	72	2,121	2,875 10
Swift Current	173	4,992	158	1,933	7	155	1,142 05
Winnipeg	568	5,362	594	6,730	127	2,367	7,895 60
Totals	4,362	51,379	2,949	31,584	668	15,349	35,058 75
Previous year	5,430	63,993	3,644	46,107	833	20,541	35,253 31

REPORT OF THE SUPERINTENDENT, ORDNANCE, ADMIRALTY, AND RAILWAY LANDS BRANCH, JOS. P. DUNNE.

In the past many of the departments acquired lands for public purposes and in course of time a proportion of these parcels have become unnecessary for the purpose for which acquired. As the Government endeavours to put all its assets to the best use these lands no longer required are being disposed of by sale, or rented, if sale is not immediately feasible.

According to statute one of the many functions of the Department of the Interior is the sale or rental of such lands and this work is the special duty

of the Ordnance, Admiralty, and Railway Lands Branch. The lands are taken over from the various departments and disposed of to the best advantage. During the year there was increased activity in this part of the work which will doubtless be reflected in future reports.

Many of the plans of the lands administered by the Branch, being very old, out-of-date or inadequate for present-day requirements, it was found necessary to have a fresh survey made of these properties, the majority of which are situated in the province of Ontario. Retracement surveys were made at Prescott and Hamilton and on the Government reserve at Burlington, and surveys were made of lands originally acquired in connection with the Rideau canal and no longer required for canal purposes. When the surveys and plans are completed, the records will be in excellent shape and the efficiency of administration will be correspondingly increased.

During the fiscal year the activities of the Railway Lands Division were chiefly directed towards the final adjustment of the various land subsidy accounts of the railway companies. An examination of the railway land subsidy records is progressing with a view to listing formerly water-covered areas. Many of these will be used to satisfy the arrears still due on account of railway land subsidies. Each patent for surface rights issued to the Canadian Northern Railway Company on its land subsidy account has been examined and also each individual contract between the railway company, and the purchaser of the land.

An area of approximately 200,000 acres was patented during the year in satisfaction of land subsidy grants, a number of lots in Government townsites sold, and one new townsite placed on the market.

The recording, copying and filing of Orders in Council affecting the Department of the Interior was carried on as usual.

The statements following show the number of lots dealt with in the fiscal year, the amount of principal and interest accrued and the amounts received in connection with the same.

STATEMENT A—Number of lots and part lots sold or redeemed during the fiscal year.

Locality	Number of lots sold or redeemed	Amount of consideration or purchase money	Amount received on account	Remarks
		$ cts.	$ cts.	
Edmundston	Pts. 1, 2, 3, 4, 5, Lots 6, 7, 8, 9	1,536 30	1,536 30	On account
Grand Falls	1 lot	105 00	105 00	In full
Ottawa	1 lot	100 00	100 00	In full
Ottawa	1 lot	180 00	180 00	In full
Ottawa	4 lots	2,175 00	402 22	On account
Ottawa	½ lot	90 00	90 00	In full
Ottawa	1 lot	202 60	40 00	On account
Port Maitland	1 lot	64 67	64 67	In full
Quebec	1 lot	50 00	50 00	In full
St. Croix	Reserve	136 30	136 30	In full
Totals		4,639 87	2,704 49	

STATEMENT B—Localities where Ordnance Lands are situated on account of which moneys have been received during the fiscal year.

Locality	Amount	Locality	Amount
	$ cts.		$ cts.
Burritt's Rapids	5 24	*Brought forward*	4,359 12
Burlington Beach	502 00		
Chambly	2 06	Old Sly's Rapids	4 00
Edmundston	1,537 30	Port Maitland	108 46
Elmsley	3 60	Prescott	2 00
Grand Falls, N.B.	150 15	Patterson's Creek	1 00
Grenville	2 00	Quebec	880 00
Hamilton	5 50	Queenston	3 00
Kingston	204 50	Shelburne, N.S.	6 00
Kemptville	62 00	St. Joseph's Island	237 42
Long Island	2 00	St. Croix River	136 30
Nepean	2 00	Sorel	104 00
Niagara Falls	6 00	Smiths Falls	54 00
Owen Sound	16 50	Tenby Bay	5 00
Ottawa	1,858 27	Township of Marlborough	21 35
Carried forward	4,359 12	Total	5,921 65

STATEMENT C—Receipts for the fiscal year, classified.

Rent	$	2,563 16
Principal		2,738 63
Fees, interest, etc.		619 86
Total	$	5,921 65

STATEMENT D—Amounts due and unpaid on account of purchase money and rent or interest for the fiscal year.

Locality	Rent	Principal	Interest	Total
	$ cts.	$ cts.	$ cts.	$ cts.
Amherstburg	2 00			2 00
Beaver Harbour	2 00		0 12	2 12
Burlington Beach	100 00		28 00	128 00
Dalhousie			1 61	1 61
Elmsley	2 10		0 77	2 87
Grand Falls	67 60		7 94	75 54
Grenville	0 20			0 20
Marlborough	0 36			0 36
Montreal			15 60	15 60
Nepean		1,310 00	291 70	1,601 70
Niagara			35 47	35 47
Oromocto	0 25			0 25
Ottawa	79 85		74 56	154 41
Owen Sound	32 50		1 58	34 08
Oxford	0 50		0 32	0 82
Port Maitland	17 59	97 04	26 00	140 63
Presqu'Ile, N.B	0 50		2 73	3 23
Shelburne	3 00			3 00
Smiths Falls	50 00			50 00
Sorel	17 68	4,819 35	2,409 28	7,246 31
Tay	4 00		25 48	29 48
Wolford	6 80		49 17	55 97
Totals	386 93	6,226 39	2,970 23	9,583 55

REPORT OF THE FINANCIAL CONTROLLER, P. MARCHAND

STATEMENT of net revenue collected from various sources for the fiscal year 1922-1923

A—Dominion Lands, including Yukon	$ 2,348,615 34
B—School Lands	1,514,503 44
C—Ordnance Lands	5,921 65
D—Registrars' fees	415 10
E—Casual Revenue	19,896 77
F—Seed grain and Relief Repayments	248,834 96
G—Fines and Forfeitures	2,607 46
H—Sales of railway lands	1,590 00
	$4,142,384 81

Statement I shows the revenue from Dominion Lands classified under subheads.

Statement J is a comparison between the revenue from Dominion Lands for the present fiscal year and that of the previous fiscal year.

STATEMENT A—Dominion Lands Revenue (Cash and Scrip) for the fiscal year 1922-23

Agencies	Cash	Scrip	Total
	$ cts.	$ cts.	$ cts.
Dominion Lands Agencies—			
Battleford	26,837 24		26,837 24
Calgary	45,884 81		45,884 81
Dauphin	5,842 03		5,842 03
Edmonton	30,679 35	100 00	30,779 35
Grande Prairie	4,820 32		4,820 32
Kamloops	5,049 72		5,049 72
Lethbridge	14,400 87		14,400 87
Moose Jaw	136,199 98		136,199 98
New Westminster	3,161 46		3,161 46
Peace River	5,391 07		5,391 07
Prince Albert	18,182 32	720 00	18,902 32
Revelstoke	1,722 08		1,722 08
Saskatoon	46,999 81		46,999 81
Swift Current	136,430 89		136,430 89
Winnipeg	16,138 62	80 00	16,218 62
Miscellaneous	19,343 25		19,343 25
	517,083 82	900 00	517,983 82
Crown Timber Agencies—			
Battleford			10,872 58
Calgary			70,475 59
Calgary Irrigation Office			802 00
Dauphin			21,789 87
Edmonton			147,268 79
Grande Prairie			5,677 43
Indian Head			2,044 71
Kamloops			30,329 55
Lethbridge			53,959 16
Moose Jaw			16,635 17
New Westminster			178,627 50
Peace River			6,016 81
Prince Albert			260,667 88
Revelstoke			43,860 43
Saskatoon			5,672 44
Swift Current			45,396 68
Petawawa Military Reserve			442 75
Winnipeg			103,678 63
			1,004,217 97

STATEMENT A—Dominion Lands Revenue (Cash and Scrip) for the fiscal year 1922-23—*Concluded*

Agencies	Total
	$ cts.
Mining Agencies—	
Battleford	978 22
Calgary	176,505 82
Dauphin	7,299 75
Edmonton	197,384 95
Grande Prairie	14,108 27
Kamloops	379 93
Lethbridge	210,665 20
Moose Jaw	7,461 98
New Westminster	33,906 23
Peace River	11,832 93
Prince Albert	22 00
The Pas	24,451 90
Revelstoke	364 20
Saskatoon	1,026 50
Swift Current	7,394 98
Winnipeg	17,132 84
	710,915 70
Canadian National Parks—	
Antelope Park	572 80
Buffalo Park	130 00
Elk Island Park	98 50
Fort Anne Park	31 00
Glacier Park	405 32
Jasper Park	5,708 80
Kootenay Park	88 20
Moose Mountain Buffalo Reserve	55 20
Point Pelee Park	3 00
Rocky Mountains Park	62,975 25
Vidal's Point Park	27 00
Waterton Lakes Park	3,472 83
Yoho Park	1,669 54
Miscellaneous	67 15
	75,304 59
Northwest Territories—	
General sales of land	784 39
Registration fees	29 00
Suspense account	1,689 05
Liquor permit fees	231 40
Traders' licenses	1,180 00
Trappers' licenses	4,433 00
Timber dues	1,876 54
Hay dues	6 00
Mining fees	5,571 81
Petroleum	10,987 31
Rentals	11 00
	26,799 50
Yukon Territory—	
Homestead fees	40 00
General sales of land	1,733 34
Rentals	6,334 70
Map sales office and registration fees	32 50
Interim receipt account	242 00
Timber dues	13,836 38
Hay permits	24 45
Mining fees	42,726 00
Coal royalty and fees	40 00
Dredging leases	144 30
Export tax on gold	25,819 04
Free certificates for export of gold	16 50
Hydraulic leases	5,436 35
Quartz rental	120 00
	96,545 56
Total revenue (including cash $2,430,867.14 and scrip $900)	2,431,767 14
Less refunds	83,151 71
Net Revenue	$2,348,615 43

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STATEMENT B—School Lands Revenue for the fiscal year 1922-23

Province	Gross Revenue	Refunds	Net Revenue
	$ cts.	$ cts.	$ cts.
Manitoba	105,399 97	409 64	104,990 33
Saskatchewan	1,020,859 19	5,593 19	1,015,266 00
Alberta	412,190 82	17,943 71	394,247 11
	1,538,449 98	23,946 54	1,514,503 44

STATEMENT C—Ordnance Lands Revenue for the fiscal year 1922-23

Fiscal year	Gross Revenue	Refunds	Net Revenue
	$ cts.	$ cts.	$ cts.
1922–1923	6,132 79	211 14	5,921 65

STATEMENT D—Registrar's Fees for the fiscal year 1922-23

Registration District	Gross Revenue	Land Assurance Fund	Net Revenue
	$ cts.	$ cts.	$ cts.
Northwest Territories	6 00	0 40	5 60
Yukon Territory	448 00	38 50	409 50
	454 00	38 90	415 10

STATEMENT E—Casual Revenue for the fiscal year 1922-23

Fiscal year	Gross Revenue	Refunds	Net Revenue
	$ cts.	$ cts.	$ cts.
1922–1923	20,060 18	163 41	19,896 77

STATEMENT F—Net Repayments of Seed Grain and Relief Mortgages for the fiscal year 1922-23

Year	Gross Collections	Refunds	Net Receipts
	$ cts.	$ cts.	$ cts.
1876	63 39		63 39
1886-7-8	609 20		609 20
1890	447 75		447 75
1894	1,456 01	43 08	1,412 93
1895	2,181 48	56 27	2,125 21
1896	731 09	13 45	717 64
1900	137 62	2 70	134 92
1901	121 24		121 24
1905	90 37		90 37
1908	4,318 87	5 51	4,313 36
1909	444 25	2 32	441 93
1911	1,905 52	74 20	1,831 32
1912	2,532 25	1 46	2,530 79
1913	398 69		398 69
1914	507 05	2 86	504 19
1915 seed grain	113,758 41	2,468 13	111,290 28
1915 relief	69,662 69	1,039 27	68,623 42
1917	2,270 53	70 07	2,200 46
1918	12,385 21	190 41	12,194 80
1919	10,664 77	151 94	10,512 83
1920 seed grain	8,516 52	52 82	8,463 70
1920 relief	12,382 03	1,698 96	10,683 07
1921 seed grain	1,670 23		1,670 23
1921 relief	563 00		563 00
1922 seed grain	326 40		326 40
1922 relief	5,181 57	50 75	5,130 82
Relief advances prior to 1915	1,476 09	43 07	1,433 02
	254,802 23	5,967 27	248,834 96

STATEMENT G—Fines and Forfeitures for the fiscal year 1922-23

Authority for Imposition of Penalty	Gross Revenue	Refunds	Net Revenue
	$ cts.	$ cts.	$ cts.
Northwest Territories Act	357 40	20 00	337 40
North West Game Act	170 00		170 00
Migratory Birds Convention Act	482 50	30 00	452 50
Forest Reserves Act	473 00	300 00	173 00
Dominion Parks Regulations	1,592 56	118 00	1,474 56
	3,075 46	468 00	2,607 46

STATEMENT H—Dominion Lands Revenue for the fiscal year 1922-23 credited to Subsidy Account

Railway Company	Date of Order in Council	Gross Revenue	Refunds	Net Revenue
		$ cts.	$ cts.	$ cts.
Lake Manitoba Railway and Canal Co., Canadian Northern Railway System	Dec. 5, 1908	1,600 00	10 00	1,590 00

STATEMENT I—Cash Receipts on Account of Dominion Lands Revenue for the fiscal year 1922-23

Source of Revenue	Gross Receipts	Refunds	Net Revenue
	$ cts.	$ cts.	$ cts.
Homestead fees	53,460 00	270 00	53,190 00
Sale fees	80 00		80 00
Improvements	36,847 94	25,810 82	11,037 12
Sales of land	414,278 96	6,112 00	408,166 96
Timber dues	825,465 05	19,070 24	806,394 81
Grazing rental and hay dues	175,415 54	5,580 81	169,834 73
Export tax on gold, coal, petroleum, mining fees, etc	801,465 07	12,176 53	789,288 54
Map sales, rentals, office fees and miscellaneous	42,705 59	14,028 16	28,677 43
Liquor permit fees, traders' and trappers' licenses	5,844 40	24 00	5,820 40
Canadian National Parks	75,304 59	79 15	75,225 44
	2,430,867 14	83,151 71	2,347,715 43

STATEMENT J—Gross Receipts (Cash and Scrip) on account of Dominion Lands Revenue compared with the previous fiscal year

Particulars	1922–1923	1921–1922	Increase	Decrease	Net decrease
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Dominion Land Agencies	517,983 82	911,265 92		393,282 10	
Crown Timber Agencies	1,004,217 97	861,982 98	142,234 99		
Mining Agencies	710,915 70	851,971 18		141,055 48	
Canadian National Parks	75,304 59	74,302 68	1,001 91		
Northwest Territories	26,799 50	121,824 73		95,025 23	
Yukon Territory	96,545 56	97,182 10		636 54	
	2,431,767 14	2,918,529 59	143,236 90	629,999 35	486,762 45

PART II

CANADIAN NATIONAL PARKS

REPORT OF THE COMMISSIONER, J. B. HARKIN

The most notable event in the fiscal year 1922-23 in connection with National Parks was the completion of the Banff-Windermere Highway. This highway traverses the central portion of the main Rockies and connects Alberta and British Columbia by auto road. It is not only the first motor road across the central Rockies but it is also the last link in the great 6,000 mile system of highways known as the "Grand Circle Tour", which furnishes what is probably the most spectacular motor route in the world. For the past two years motorists in both countries have been eagerly awaiting the completion of this final arc. Now the circle is complete and motorists from the prairies may travel west from Calgary, Alberta, passing through the Banff national park and the magnificent alpine scenery of the central Rockies, touching Banff, lake Louise, the valley of the Ten Peaks, Moraine lake, across the Vermilion summit and through Kootenay national park to Invermere, B.C. From this point direct road connections can be made via Cranbrook, B.C., to Spokane and Seattle, Wash., Vancouver and Victoria, B.C., Portland, Ore., San Francisco, and Los Angeles, Cal. Returning the road swings east to the Grand Canyon, thence north via Salt Lake City, Yellowstone and Glacier national parks to the International Boundary and thence to Macleod and Calgary. From Macleod a diversion of 35 miles gives access to Waterton Lakes national park, the beautiful reservation in southern Alberta. noted for its fine scenery and unequalled fishing. The western section of the Grand Circle is known as the "California-Banff Bee Line", the eastern, the "Grand Canyon Route." With their extensions these roads make up a great international park-to-park highway system which touches twelve national parks in the United States and three in Canada.

Within Canadian territory there is also a smaller circle—the noose in this great scenic lariat—which is known as the "Canadian Rockies Circle Tour." This is formed by the Transprovincial highway over the Crowsnest pass, which connects with the California-Banff Bee Line at Cranbrook and with the Grand Canyon route at Macleod, completing the circle of 600 miles, throughout every mile of which the motorist is either within or in full sight of the Rockies.

About 1911 the project was first formulated and the matter brought to the attention of the Provincial and Dominion Governments. Preliminary surveys were undertaken and Sir James Hector's observations with regard to the feasibility of the Vermilion route were recalled. Engineers of the British Columbia Government reported that this route offered the most favourable way of travel for a main motor highway through the Rocky mountains and that for scenic grandeur and location it could not be surpassed.

As a result of conferences between the two provinces of British Columbia and Alberta and the Dominion Government it was agreed that the province of Alberta should build the section from Calgary to the eastern boundary of Banff

national park, the province of British Columbia the section from the Windermere valley to the Vermilion summit on the western boundary of the park, and that the Dominion should build the section through the national park uniting the other two.

In 1914 the road was open from Calgary to the Great Divide and the Government of British Columbia had constructed about twelve miles on the western section, work being carried on from both ends of the road. Owing to the outbreak of the war the progress of the work in British Columbia was unavoidably interrupted and in 1919 a new agreement was entered into by which the Dominion Government undertook to complete the remaining 53 miles of road by January, 1924. In return the province of British Columbia agreed to convey to the Dominion an area of approximately 600 square miles traversed by the new highway, for national park purposes, an area now known as Kootenay national park.

The construction of a highway through unsurveyed mountainous country and so far from a base of supplies was attended with many difficulties. Railheads at either end were seventy-three miles apart and heavy snowfall during the winter months considerably aggravated natural disabilities. In spite of this, however, construction was carried on almost without interruption from the time of commencement and the road was completed by the autumn of 1922 or more than a year before the date fixed upon by the agreement.

Construction of the Vermilion-Windermere section presented many difficulties not only on account of the mountainous character of the country but owing to the long distances from railhead. From the crest of the Rockies, which the road crosses via the Vermilion pass, the road drops down the abrupt western slope of the Rocky Mountain range proper and then again ascends to cross the Brisco range, descending to the floor of Sinclair valley and through the thrilling Sinclair canyon to the Columbia. Forty miles of the road had to be cut through virgin timber, fourteen bridges had to be constructed and the road finally carved through the huge walls of the Sinclair canyon.

The railheads, Castle (Alberta) and Firlands, (British Columbia) were 73 miles apart. This meant that supplies for the central portion had to be transported by trucks or wagons over great distances. During the winter of 1920-21 the snow sometimes lay as deep as four or five feet on the passes and it often took days for the supply teams to reach the end of the road. About 60 miles of "tote" road were kept open during the past two winters.

Every mile of the new highway has been laid out so as to afford the motorist the finest views of the incomparable scenery as well as the easiest grades. The region is practically virgin country and it embraces some of the most magnificent scenery in the Rockies. The route is one that has been followed in the past by several pathfinders, chief of whom was Sir James Hector, geologist with the Palliser Expedition, who ascended the Vermilion on the famous journey which later resulted in his fortunate discovery of the Kicking Horse pass. The region is in fact so new that very few of the peaks bear names and fewer have as yet been ascended. A new world, rich in virgin attractions, is therefore opened both to the mountaineer and the motorist. The district abounds naturally in big game which is increasing rapidly and becoming very tame under the sanctuary conditions prevailing in the national parks. Wild goat, elk, moose, deer, and bear will all come within sight of the passing motor and a friendly Bighorn sheep will often dispute the right of way.

The road is to be formally opened on June 30 when representative speakers and visitors from the Dominion Government and from the provinces and neighbouring states are expected to be present.

TIMBER PROTECTION

The fire damage in the parks during the year has been comparatively light. Although the weather was dry and dangerous and great fires raged in different parts of the country, the fires within the parks' boundaries, with one exception in Kootenay park, were all reached and controlled before serious damage was done.

FIRES IN THE CANADIAN NATIONAL PARKS

	1922–23	1921–22
Timber burned	298¼ ac.	2,614¼ ac.
Grass burned	11¼ "	1,643¾ "
Cost of extinguishing	$3,096 36	$8,296 26
Number of fires	70	70

The constructive programme of organization and preparedness for fire protection was continued throughout the building season with the following results: Nine new wardens' cabins were built, one partly built, one reconstructed and one taken over from the Royal Canadian Mounted Police, seven repaired or added to, and three stables erected. New trails totalling 61 miles in length were built giving easy access to much heretofore difficult country. Sixty-seven miles of forest telephone lines were strung which will add materially to the fire protection service.

In Waterton Lakes park the air patrols from High River made daily tours over the park and in Kootenay and Rocky Mountains parks an inspection and a selection were made for an aerodrome site and a number of landing places chosen for the proposed air patrols in these two parks.

Intensive training and examinations of the wardens of Jasper, Yoho, Waterton, Glacier, and Mount Revelstoke parks in the mechanical systems of fire-fighting were held. The fireguards in the prairie parks, Elk Island and Buffalo parks, were ploughed or harrowed as was necessary.

In Rocky Mountains park a new device was introduced by installing two large wooden tanks on Sulphur mountain which will act as reservoirs for water during the dry seasons, collecting and storing a supply from small rills which would not otherwise provide enough for pumps. Five portable pumps, with sufficient hose, were added to equipment during the year. A trial was made of another model high pressure pump which resulted in the purchase of one of these at the time and eight more were ordered for the 1923 season. A number of canvas tanks for the relay system and of military pack saddles were obtained and found very satisfactory in service.

For the year the wardens have travelled 217,770 miles on patrol.

TOWN PLANNING

Building plans in the various parks are now submitted to the architect of the Town Planning division and of those submitted during the past year in the majority of cases improvements were suggested and in many cases entirely new drawings prepared with a view to establishing more suitable and effective architecture in the various social settlements. In the course of time it is believed that this attention will greatly improve the appearance of the villages and towns from a modern town planning point of view.

New motor camping grounds were laid out at Banff covering 277 lots. Designs for nineteen shelters and two service buildings and a caretaker's lodge were supplied for buildings of log construction intended to harmonize with the parks environment and these have been erected. A new subdivision was laid out at Radium Hot Springs on the Banff-Windermere road and plans were

made for the entrance archway buildings at this point. These buildings now in course of construction will contain, on one side of the archway, quarters for the warden and on the other side a rest room for visitors. Plans for a new subdivision at Marble canyon were made, for the improvement of Banff avenue and a comprehensive town plan for Canmore mining village with a view to the beginning of a model mining village movement within the parks. This involved studies of existing buildings, ownerships, improvement in appearance, arrangement and locations.

Studies were made with a view to future artistic development at lac Beauvert, Maligne canyon, Miette hot springs, Elk Island park, Brereton lake, Nora lake, Waterton lakes, forts Chambly and Lennox, and Vidal's point.

Tentative plans were made showing possible locations for national parks in the Maritime Provinces and in the Gatineau district of Quebec and sketch plans for standards for historic sites. Plans were made for a summer colony at lake Edith, Jasper park. Reports and plans were prepared on Fort George, Garrison Reserve and Fort Missassagua on the Niagara front, after visits paid to the sites by the town planning adviser.

Educational work was carried on in the shape of press articles on town planning matters and correspondence with various groups in different parts of Canada with a view towards the establishment of local town planning organizations; lectures were given at different universities, towns and cities, and at Muskoka Assembly by members of the staff; and lantern lectures were issued to country societies and schools. Material was prepared for the *Town Planning Journal* and the Town Planning Institute of Canada.

Exhibits of town planning material were sent to the annual town planning conference in Ottawa and to a town planning conference in London, England.

Animal Life and Farming Operations

Owing to the sanctuary afforded, all wild life in the various parks continues to thrive and multiply. In view of the decrease and extermination of the larger game mammals throughout most of the American continent this fact is very encouraging.

Buffalo.—A census of the buffalo herd taken on March 21, 1923, resulted as follows: Buffalo park, 6,780; Elk Island park, 281; Rocky Mountains park, 16; total, 7,077. The census for March 21, 1922, was 6,315. This shows an increase for the year of 762. The increase would have been larger but for the fact that 366 were slaughtered, died through natural causes or were otherwise disposed of during the year. In Buffalo park at Wainwright the buffalo have outgrown the capacity of the park owing to a succession of dry years and natural increase amounting from 1,000 to 1,500 annually. It was found that extensive feeding operations were necessary during the winter months and for this reason the department arranged for the slaughter of 250 of the older buffalo bulls, as an experiment. The products from these animals, consisting of meat, heads and robes, are being placed on the market. Owing to the fact that only old males were killed it was considered that the meat could best be utilized as pemmican. The department arranged for the manufacture of this meat according to the original Indian recipe. The work is being carried on under the supervision of a park official who is familiar with the manufacture of pemmican and who is being assisted in this work by a number of Indians. From the samples obtained and a number of reports from old-timers and people who have used pemmican it has been found that the quality is equal to that of the original product. It is expected that this food will be of great benefit and

service in the outlying parts of Canada. Already extensive orders have been received from northern Canada.

Numerous requests for donation and loan of animals were received from zoological gardens from all parts of the world, particularly from cities in Canada, United States, Ireland, and Scotland. To show a spirit of co-operation in the conservation of wild life, these requests were complied with whenever possible. All expenses in connection with these transactions are borne by the consignees. Three elk were donated to the Penticton district of the Okanagan valley for the propagation of the species in that district. A number of mounted heads of buffalo, moose, elk, Rocky Mountain sheep, and goat were loaned for exhibition purposes.

Antelope.—The antelope herd in Nemiskam reserve continues to thrive and there are now 130 in the reserve, an increase of 30 during the past year. This appears to demonstrate that antelope can be successfully bred in semi-captivity. An endeavour is being made to capture another herd of antelope and transfer the animals to Nemiskam reserve. The creation of another reserve, or reserves, for these animals is now receiving attention. The present immediate necessity for this is occasioned by the fact that notwithstanding the protective measures now used, the animals outside Nemiskam reserve are being killed, and that the small scattered wild herds now remaining will soon be wiped out if still further measures are not taken for their protection. During the past winter provision was made for the purchase of fodder for a band of these animals, which it was reported were likely to die from starvation due to their inability to gather food owing to the depth of the snow.

Wolves.—Investigations in connection with the wolf menace have been carried on and taken up with the provincial authorities. It was thought that to combat the menace successfully the provincial and federal authorities should co-operate.

The question has been discussed with the provincial authorities but a definite working basis has not yet been defined.

Twelve persons were appointed temporary honorary park wardens to pursue wolves into Waterton Lakes park, which, it has been reported, have been molesting stock.

Bears.—A polar bear ten months old was secured for the Zoo at Banff. This bear was obtained at Chesterfield inlet by Sgt. Douglas of the Royal Canadian Mounted Police.

Fishing.—No change was made in the regulations during the past year. A few lakes where excessive fishing had been carried on were closed to give the fish a chance to increase. On the whole fishing was reported as being quite satisfactory throughout the different parks.

In Jasper park a number of lakes do not contain fish. Special investigation is being carried on with a view to stocking these lakes, which will be a great benefit to the park from a tourist point of view.

Permits.—Permits to collect a stated number of birds and mammals in some of the parks, for scientific purposes, were issued during the year to four naturalists of recognized standing.

Experiments.—Sunflowers for buffalo food were sown for experimental purposes in Buffalo park last year. The animals, particularly the buffalo, took to the food very readily and it was apparently relished. A larger area will be sown this year.

Buffalo wool has been sent out to manufacturers for experimental purposes. More wool is being gathered for this purpose. Final reports have not as yet been received.

The superintendent at Buffalo park reports progress in experimental cross-breeding now being carried on in that park by the Department of Agriculture. During the month of April, 1923, one of the domestic cows gave birth to a hybrid heifer calf from the buffalo bull, and two others had heifer calves from the young yak bull. All are doing nicely and are fine healthy specimens.

Revenue from Farming Operations

8,779 bushels oats (threshed) at 40 cents	$ 3,511 60
1,610 tons hay at $16 per ton	25,760 00
175 tons straw at $5 per ton	875 00
26 tons green fodder at $33 per ton	858 00
Total	$31,004 60

PUBLICITY

In view of the opening of the first motor road across the central Rockies a special campaign of publicity was inaugurated early in the present year and 25,000 copies of an attractive illustrated brochure were distributed to motor clubs and similar organizations. This booklet contains the history and geography of the Banff-Windermere road, noting the main features of tourist interest. Through the co-operation of the Department of Immigration and Colonization, the Canadian Immigration officers in the United States assisted largely in the distribution of the work and of suitable maps. The Canadian Trade Commissioner in New York, Mr. Frederick Hudd, assisted in special publicity work in that city and arranged for the distribution of a large number of the pamphlets and also for the issue of special publicity items and magazine articles in connection with the opening of the road. About 2,000 copies were sent to the Canadian Pacific Railway Company, at their request, for distribution at their offices and a similar number to the president of the Calgary Good Roads Association which is undertaking on its own behalf a special campaign in connection with the new highway. It was found necessary to prepare a new issue of 15,000 copies.

Through the co-operation of the Department of Immigration and Colonization large pictures of scenes in the parks were framed and sent to sixteen of the Canadian Immigration agents in the western states. Six of these were sent to each office with instructions to forward them to the next office after two weeks. This will insure a circuit of distribution of 96 different pictures in the respective offices.

An exhibition of enlarged views of scenes in the Canadian national parks, particularly along the new highway, was held in the Railway Committee room of the House of Commons, which was viewed by about 260 members and senators. By arrangement with the Exhibition branch enlarged pictures of scenes in the parks were also supplied to any members who applied for them for use in their rooms in the House of Commons.

Requests for "Through the Heart of the Rockies and Selkirks" continue to come in steadily and several hundred letters of appreciation have been received. A special distribution of this booklet was made through the office of the Canadian Immigration service throughout Great Britain and the Continent. Copies were also sent to the principal clubs throughout the United Kingdom and to a number on the European continent. This booklet is now almost exhausted and a new edition may be necessary for the coming year.

A small folder entitle " What to Do at Banff " was also published giving concise information with regard to roads and trails and points of interest for visitors to Banff, lake Louise and the Field district. This publication is

intended for distribution within the park and the greater part of the issue was forwarded to the superintendent for such distribution. Altogether about 50,000 pamphlets were distributed and a large number of prints and slides were circulated.

The official lecturer continued his public lecture work in Ontario and Quebec and during the autumn of 1922 visited the western provinces where he addressed a large number of educational institutions and clubs of various kinds. In addition the branch furnished twenty-nine lectures accompanied by suitable slides. Moving picture films were loaned to different organizations.

A monthly news bulletin was inaugurated early in the year and distributed in English and French to newspapers all over the Dominion.

REVENUE

The total revenue for 1922-23 was $77,112.95, a decrease of $2,102.21 as compared with the previous year. This is due to the fact that the branch collected in 1921-22 $2,877 for Northwest game licenses which were issued last year by the North West Territories Branch.

ROCKY MOUNTAINS PARK

Tourist Traffic.—The tourist figures for Rocky Mountains park were very satisfactory. The following is a summarized statement:—

		Home Country of Visitors			
Hotel	Canada	United States	Other Countries	Conducted Parties	Total
Banff Springs Hotel, Banff	2,639	12,608	963	252	16,462
Chateau Lake Louise, Lake Louise	1,877	17,525	1,001	883	21,286
King Edward Hotel, Banff	3,695	418	341	.....	4,454
Mount Royal Hotel, Banff	1,359	1,177	503	.....	3,039
Bretton Hall, Banff	2,191	604	100	.....	2,895
Homestead Hotel, Banff	1,463	311	42	.....	1,816
Alberta Hotel, Banff	983	203	14	.....	1,200
Hot Springs Hotel, Banff	413	15	3	.....	431
Totals	14,620	32,861	2,967	1,135	51,583

Summary

Total hotel registrations	51,583
Motorists	18,959
Campers	2,000
Roomers	1,700
Excursionists	5,500
Grand total	79,742

Government Baths.—There were approximately 5,000 more bathers accommodated at the Cave and Basin during the year than in any previous year. The total number was 49,077. At the Upper Springs the number registered totalled 21,476, which is a slight decrease from the record of the previous year due to the fact that during the last three months of the year there was a shortage of water at the springs and few bathers were admitted. The visitors came from such far distant parts as England, Scotland, Ireland, Australia, New Zealand, Italy, Russia, Africa, India, Channel Islands, as well as from the United States and all parts of Canada.

Motor Traffic.—The total number of motor licenses issued in Rocky Mountains park was 4,213, which is 721 more than last season and the total number of persons who entered the park by motor was 18,959. On 1st July, 281 licenses were issued, which is a record for any one day; 502 licenses were issued for the week ending July 31, which is a record for any one week and the total for the month of July was 1,518, which is again a record for any one month. The total number of cars from Calgary during the year was 2,761; other parts of Alberta, 129; other parts of Canada, 225; United States, 198. Twenty-nine different states were represented among the visitors.

Power Plant.—Owing to the closing down of the Bankhead mines, the Canadian Pacific Railway which owns the mines, notified the department that it would not be able to continue to supply Banff with electric light and power. Consequently the department had to take steps for the construction of an electric plant of its own. When the Calgary Power Company was given authority in 1911-12 to erect a dam at the outlet of lake Minnewanka and to use the lake as a storage basin provision was made in the contract that the Company must install a thimble in the dam to enable the department to use the natural flow of the Cascade river for power purposes. To meet the situation created by the closing of the Bankhead mines and the consequent need of a new source of electric power for Banff the department decided to take advantage of the power provision in the Calgary Power Company's contract. In December work on the necessary plant was commenced. The construction camps were erected, the pipe line surveyed and cleared and substantial progress made in the cutting of the necessary tunnel.

Government Town Sites.—A total length of 1,289 feet of new sewer was laid during the year and 1,933 feet was replaced. A fill of 15,000 cubic yards to finish the approaches to the new Bow bridge was undertaken in the spring and the approaches to the bridge were surfaced, foot paths constructed, and the gravity water system carried across the bridge. Periodical inspections by the sanitary inspector were made during the year of all restaurants, laundries, dairies, etc. Numerous improvements were made at Canmore. The summer garbage collection was continued and the main street was scarified, surfaced and rolled. A new street lighting system was installed.

Camping ground.—The Rundle Mountain camping ground situated very charmingly at the junction of the Bow and Spray rivers has attracted visitors to an unprecedented extent. Increased facilities were provided for the campers in the way of telephone, caretaker, cooking stoves, etc. This camp was inaugurated six years ago and the number of permits has risen from 73 to 527.

Golf Course.—All the bunkers, greens and fairways on the new golf course have been completed but the late spring retarded the normal growth of the turf. Owing to the fact that the course is situated at an altitude of 4,500 feet the average growing season is very short and night frosts are common.

Game.—A herd of elk from Yellowstone park, liberated in the park in 1920, has increased rapidly and small herds are now frequently seen on the motor roads in the vicinity of Canmore, Dutthill, Anthracite, and Massive. Rocky Mountain sheep are also increasing noticeably. They can be seen on the southern slopes of the Sawback range at any time in large numbers and small herds often frequent the motor roads on the Banff-Castle road. Certain portions of the sheep range are now occupied by goats which have chased the sheep from the range. This is sufficient evidence of the increase in their numbers. They will not graze with sheep. Beaver are also increasing rapidly. A small colony has established itself on the Bow river a short distance from the golf

links. In carrying out the policy of keeping noxious animals under control, twenty-six coyotes, two wolverine, one mountain lion, and one lynx were destroyed during the year.

Trails.—The total length of trails now within the park is approximately 700 miles. During the summer months new trails were made from Stoney Creek summit to the mouth of the Dormer river, a distance of 17 miles; from Scotch camp on the Red Deer river to Indian Head on the Clearwater river, a distance of 15 miles; and from Spray lakes to the Kananaskis river, a distance of 12 miles.

Mosquito Control.—Mosquito control in the park areas is of the greatest importance since the advent of the mosquito coincides with the height of the tourist season. Mr. Hearle, of the Entomological Branch, Department of Agriculture, superintended this work during the season and the operations were very successful. Most of the work undertaken consists of spreading kerosene oil over the breeding places of mosquitoes. The oiling covered an area comprised within the four-mile radius of the Banff townsite and very few mosquitoes were observable during the season.

Zoo.—At no time in the history of the zoo has such interest been manifested by tourists as during the last season. At all times during the day large numbers are seen viewing the animals and at feeding time difficulty is experienced in getting near the cages. During the year the following additions were made to the collection: One Polar bear cub; one tame coyote; two brown pelicans; one silver groundhog; one peacock; two osprey hawks; six magpies. By far the most interesting of the newcomers is the Polar bear cub, which is a great favourite with the visitors.

Animal Enclosure.—The animal enclosure situated two miles east of Banff, on the Banff-Calgary highway continues to be a great attraction to the tourists. Thousands visit it every year and now that the motor car can be driven over a fairly good road completely round the buffalo paddock the number of visitors is greatly increased.

Building Permits.—During the year twenty-seven building permits were issued. The estimated cost of this work is $69,675.

Fire Brigade.—The fire brigade was called out sixteen times and was successful in preventing any serious damage. The estimated total loss for the year was approximately $295. The personnel of this brigade is composed of citizens who volunteer their services, while the equipment and hall are supplied and maintained by the department.

Walking Tours.—Walking tours were again conducted by Mr. Wheeler. These tours provide for persons of limited means facilities for passing through some of the most beautiful spots in the park.

Tuberculin Tests.—During the month of November the annual tuberculin tests were made of the various dairy herds in the park by the inspector of the Department of Agriculture, assisted by the local sanitary inspector. Two hundred and fifty head were tested and of these only four reactors were found. These were slaughtered. Careful supervision is maintained over all dairies and as a result the milk sold in the park is of a very high standard, both as to quality and cleanliness.

YOHO PARK

There was a considerable increase of visitors to the park compared with the previous year. This was largely due to the additional camps that have been constructed for tourist service. The Canadian Pacific Railway has erected

camps at lake O'Hara and Summit lake, while the capacity of the Emerald Lake chalet has been more than doubled, as was also the capacity of the Yoho camp. These camps, as well as the Wapta camp and the Y.M.C.A. camp at Field were all filled to the limit throughout the season. Two special camping grounds were laid out by the department and permanent cooking stoves erected, which were much appreciated by the public and tended to decrease the danger from fires.

Among the considerable works undertaken during the year in Yoho park was the dismantling of the high trestle bridge at Ottertail which was successfully executed with a comparatively small loss of material. From this structure about 295,000 feet of timber was salved as well as several tons of bolts, nuts, washers, and truss rods. This stock of material has proved very valuable for all kinds of construction work and repairs.

In the spring a new bridge was built over the Kicking Horse river, about 14 miles west of Field, entirely from the Ottertail bridge material, and about 70,000 feet was used on the work. Late in the season other bridges were built over Sherbrooke creek, Emerald creek, and on the Yoho road near the 11 Mile post.

GLACIER PARK

At the Nakimu caves further exploration and development work was carried on in No. 4 cave. A total distance of 885 feet was made accessible to the public by the erection of stairways of concrete, walks and platforms. Shortly before closing down a new cave was discovered 430 feet long and 12 to 16 feet wide and approximately 100 feet high. The floor is composed of fine water-washed gravel. This is the largest cave so far discovered. It has been named "Grand Canyon".

The number of visitors to the caves was 660, by far the largest on record. Gasolene lanterns were used in place of carbide lights and the change was fully justified. The light is more brilliant and the lanterns are easy to keep clean and generally more convenient. The total number of visitors to the Glacier House was 3,792, an increase of 569 as compared with the previous year. Of these 289 were Canadians, 3,254 came from the United States, 111 from other countries, and 138 unlocated.

MOUNT REVELSTOKE PARK

During the summer of 1922 Mount Revelstoke park and the Revelstoke district as a whole were for the first time opened up to motor traffic from outside points by the completion of the provincial motor road to the Okanagan. An immediate increase of traffic followed on the completed part of the Mount Revelstoke highway, some of the visitors coming from as far away as southern California. The department continued the work on the section of the Mount Revelstoke auto road abandoned by the contractors, and completed the grading. A total of fourteen miles is now open on this road.

JASPER PARK

The past season has been by far the most interesting with the largest number of visitors in the history of Jasper park. This was due in large measure to the better facilities for visitors provided by the completion of the first unit of the Jasper Park Lodge built by the Canadian National Railways. This unit was ready for occupation on June 15. It provides excellent accommodation for 75 guests, with every modern convenience, such as electric light and hot and cold water. Further extensions to the Lodge are in progress which will supply accommodation for 300 persons and include a large central lounge and dining room.

The harmonious and artistic type of architecture selected makes the Lodge a distinct attraction to the beautiful surroundings at Lac Beauvert.

Jasper park was again honoured with a Viceregal visit during the past year. Their Excellencies the Governor General and Lady Byng, and their house party, spent nearly three weeks in the park. The visit of the British parliamentary party was also an interesting event of the season.

Roads.—Speaking generally the development has been most satisfactory. As a part of a plan for the opening up of hitherto inaccessible areas in this very large park the outstanding feature has been the completion of nearly 13 miles of the Edith Cavell highway including the extensive switchback tangents from the Astoria river to the upper benches leading to the foot of mount Edith Cavell.

Wild Life.—The success of the experimental herd of wapiti has exceeded expectations. The surviving 85 from the 100 so kindly sent by the United States Government have now multiplied to 400. The largest herd have adopted the area around lakes Patricia and Pyramid as their range and more than 100 have been seen there at one time. Another large herd of more than 100 range at Buffalo prairie. More than 100 deer indigenous to the park, between 50 and 100 Rocky Mountain sheep and goats, besides some of the Douglas or large mountain caribou have been seen within an area of approximately 5 square miles of Buffalo prairie. As the Douglas caribou is believed to be gradually disappearing in the northern part of its range it is gratifying to know that this animal is found in Jasper park. It is estimated by the wardens that there are approximately 100 living within the park and that the number of animals is gradually increasing.

Moose are also increasing noticeably, owing doubtless to the sanctuary offered them in the park, since they have been much harassed by hunters in the old ranges outside the park boundaries. There has been a marked increase in the fur-bearing animals. Beaver, marten, fisher, and mink are flourishing everywhere. The beaver in particular are getting very numerous and wonderfully tame. Bears are increasing very rapidly, particularly black and cinnamon, in the Athabaska valley. Grizzly bears are very plentiful both in the Snake Indian and Rocky River valleys.

Among the game birds the prairie chicken show most manifest evidence of increase. They are migrating to the eastern portion of the park and raising large and healthy looking broods. Here, too, are signs that they are aware of sanctuary.

Fish.—The outstanding feature in connection with fish has been the success of the installation of ouananiche and Atlantic sea salmon in Pyramid lake. The best catches ever known were made during the past season.

Building Permits.—The value of building permits issued during the year was: Jasper townsite, $13,300; Lac Beauvert, $15,900; Brule, $40,200; Lake Mildred, $100; making a total of $69,500. A boulder-and-concrete garage was erected for park service, also three standard cabins.

Reconnaissance.—The reconnaissance of the northwestern portion of the park, undertaken by the chief inspector, the supervising warden and a party of wardens accompanied by a government photographer supplied much needed data on topography, wild life and scenic features which hitherto had been unknown.

Golf Course.—Satisfactory progress was made in cutting and clearing the nine-hole golf course laid out immediately east of Lac Beauvert and in close proximity to the Lodge.

WATERTON LAKES PARK

The effect of the general economic depression has been felt in the decreased use of the park by local patrons. On the other hand foreign tourists are more in evidence and the wider advertisement which the park is receiving may be expected to reverse the record of this year in the immediate future.

The opening of the new subdivision has resulted in thirty-four applications for building leases and the erection of twenty houses. This has involved much work in the clearing and grading of streets.

The new entrance road of approximately $5\frac{1}{2}$ miles from Waterton bridge to the townsite was built and was in general use by August 1. An offshoot of this road connecting with the new golf course was completed early and was in constant use by July 1. The gravelling of the Pincher Creek road was done in the fall. Great interest was evinced by visitors in the Akemina highway on which work was commenced in the winter of 1921-22. The great possibilities of this road are keenly appreciated since it will form, with other extensions, easy connection with the Banff-Windermere road and the United States park-to-park highway system. Considerable location work was done for new bridges and roads. The gasolene engine and saw-mill are proving very satisfactory in securing lumber for bridges and culverts and a considerable saving is thus effected.

Fifteen miles of new trails were constructed and the old trails improved. There are now 200 miles of trails in the park.

Twelve miles of new telephone line were completed from Belly River station to Lee creek. This makes 60 miles of single wire grounded telephone now in operation.

The game regulations are strictly enforced. The menace of wolves and coyotes was largely met by the issue of hunting permits to honorary wardens. Wild life is continually on the increase, notably the mule deer and the Rocky Mountain sheep. White tail deer, though not numerous, are still to be seen. Beaver are becoming very plentiful and are found all over the park. As usual thousands of duck and geese took advantage of the lakes as a resting place during their migration in the spring and fall. A number of wild swan were seen during May on Muskilonge lake.

Fishing has always been a noteworthy feature of the park. Fine specimens of salmon trout and Rocky Mountain white fish, pike and cut-throat are found. Waters hitherto without fish have now been stocked. Egg planting in September was a new experiment and the results are being closely watched. If successful, the cost of restocking will be greatly minimized and backwaters, now inaccessible to pack horses, will be easy to stock.

The Golf Course.—Work on the golf course continued during the season and although it is still in a rough condition it has served numerous players. The course has a wonderful scenic location.

Camping.—Camp life has always been a leading feature of this park, and there is evidence that it is becoming increasingly popular. Considerable work was done in the early season in preparing the ground and clearing further areas. Three concrete stoves were erected which were in constant use. A special feature of the season was the advent of the Boy Scouts under the direction of the Scouts' Commissioner of Cardston and the surrounding districts, comprising about fifteen troops. By this means 100 boys received training and an ideal holiday. This was followed by a party of fifty boys in charge of the Y.M.C.A. of Lethbridge. The suggestion was made that all local detachments at Lethbridge, Macleod, Pincher Creek, and Cardston should establish permanent summer camps in the park, the buildings to be erected by the boys as part of their training. The camping permits were slightly in excess of the previous year.

Farming Operations.—The initial efforts of 1920, when farming operations were first undertaken, are now bearing fruit as may be seen from the production record: 106 tons of green feed and 105 tons of hay. These products obviate the purchase of forage and its transportation from various railway points. Seed sown last spring should give ample hay to cover the whole year.

BUFFALO PARK

There were approximately 550 acres in crop during the year in Buffalo park, all oats; 100 acres new breaking, 200 acres summer-fallow, and the remainder spring ploughing. About 50 acres were cut for green feed, and from the remainder 8,779 bushels were threshed, which, after shipping 800 bushels to other Dominion parks, was sufficient for the requirements of the coming year, including seed.

Very good results were obtained from an experiment in growing sunflowers, and the experiment of feeding sunflowers to the buffalo in winter was also satisfactory, as well as interesting. It is expected that in the future the feed situation may be greatly helped by growing sunflowers at different points in the park.

By installing temporary dams in the Ribstone creek in the early part of the season, dry portions of the meadow were flooded resulting in a wonderful yield of hay. Approximately 1,300 tons were cut on this meadow, all of which was needed before the winter was over, owing to the poor grazing conditions on the range.

Fourteen miles of fireguarding south of the ford on the west side of the park were ploughed by hired teams and about three miles of new guard at the southwest corner of the park. The remainder of the fireguard work, amounting to 170 miles, was done by park outfits.

About four miles of new fencing were erected during the year. About three miles of the cattalo fence were moved to provide better trails leading to winter quarters for the buffalo, and sixty miles of the main fence were repaired; also four miles of the low fence around the hay meadow.

Two new branch telephone lines connecting the buildings in the cattalo enclosure and those at the abattoir with the main line were constructed, as well as considerable repairs made to existing lines.

Dry wood permits covering 725 cords were issued to settlers living in the vicinity of the park during the year; also permits covering 6,000 green willow pickets were obtained by the settlers.

A garage and store-room were constructed at the farm, and, in addition to constructing a boarding camp and barn at the slaughtering plant in winter quarters, the first unit of the abattoir, to be completed during the coming year, was built. The installing of an electric light plant at the farm has not only been an improvement but also a protection from fire.

Wild Animals.—Considering the poor condition of the range last fall the animals have come through the winter better than was expected. There have been large increases in every herd again this year. The natural increase in buffalo has been 991, and although approximately 300 were slaughtered during the past winter the count this spring showed the number of buffalo in the park to be 6,780.

The records show that there are at present the following animals in the park: Buffalo, 6,780; moose, 28; elk, 218; mule deer (estimated), 1,000; antelope 4, cattalo, 13; yak, 20; domestic cattle (cattalo experiment), 15; hybrid yak, 2; total, 8,080.

A pair of buffalo were shipped to the Zoological Society of London, England, during the year.

Breeding Experiments.—Considerable progress has been made during the year in connection with the cross-breeding experiment which is being carried on by the Department of Agriculture in this park. In addition to the hybrid buffalo calves which arrived this spring, there are a number of calves from the yak-domestic cross, and the experiments so far are considered very satisfactory.

Visitors.—In September Their Excellencies the Governor General and Lady Byng, together with their party, visited Buffalo park. The various kinds of animals were rounded up for the occasion and the members of the party expressed great interest in the animals.

Entries in the registers kept show that 8,000 tourists visited Buffalo park during the year, most of these travelling by motor.

ELK ISLAND PARK

This year the Department took over 34 sections of the Cooking Lake forest reserve to be fenced and added to Elk Island park. This will extend the total area of the park to 32,000 acres and will much relieve the present overcrowding of animals and make room for the addition of a goodly number of elk, moose, and deer within the new enclosure. The land affords excellent pasturage with several small lakes.

With the arrival of spring the usual repairing and cleaning up of the grounds were undertaken. New seats, tables, stoves and a speakers' platform were placed in the picnic grounds and new seats along the lake shore. To improve bathing facilities reeds were cut along the lake shore and during this operation an attractive beach was discovered, which serves admirably as a safe bathing place for young children. The building up of the sports' grounds is proceeding, and it is already proving a great boon to the campers.

Three hundred and fifty tons of hay were cut on Goose Lake meadow and with other additions a crop was put up of 400 tons. Permits to cut a total of 97 tons were granted to farmers living in the vicinity of the new park area.

The fireguard around the park was ploughed in July and October. There were no fires in the park, though one on the forest reserve close to Goose Lake hay meadow gave considerable anxiety. The staff were at hand night and day and no damage was done to the park. All the fences were repaired and 23 carloads of new posts were placed at convenient points for hauling to the fence site of the new park area.

Mammals and Birds.—The animals came through the winter in satisfactory condition. There was, however, a decrease of 15 in the number of buffalo. Thirteen of these were slaughtered and two were found dead. One crippled moose cow was shot and an aged bull moose died. The records show the number of animals as follows: Buffalo, 292; elk, 189; moose, 77; mule deer (estimated), 155. The coyotes are very plentiful in the park and owing to the heavy brush it is difficult to hunt them with dogs. By trapping and shooting seventeen of their number were destroyed.

The blue heron and turkey buzzard return each year and nest on the islands. Partridges, prairie chickens and ducks are almost innumerable. This year the ducks enjoyed the protection of the park until December 7, and while the ice was a foot thick elsewhere on the lake they still had a hole open for their operations.

Visitors.—The total number of visitors to the park for the year was 5,605 as compared with 5,443 last year.

POINT PELEE PARK, ONTARIO

Point Pelee national park extends from the mainland, in Essex county, Ontario, eight miles south into lake Erie and is the most southerly point of Canada. It is only within the last decade that its exceptionally mild climate and great beauty have been adequately realized, both as a holiday resort and as a bird paradise. Motor roads now exist that give access to the many attractions of the park and each year they are being extensively used.

During the past year extensive stretches of road-grading and cutting of abrupt angles have been carried out, together with moulding of road-beds and surfacing with a suitable depth of clay. The native soil is composed principally of sand and requires clay as a binding material. This clay has to be hauled from a point considerably north of the park boundary. In the northern division of the park surfacing of the roads has been completed, except the refilling necessitated by motor traffic during the period of construction.

The early spring season permitted the planting of a number of willows on the shore in good time in proximity to the new bathhouse. The walnut trees planted the previous year have done very well. A number of the southern cacti beds have been enclosed in barricades built of rustic work which protect them from injury. The luxuriance of these plants is always of great interest to visitors and is evidence of the mildness of the climate.

The construction in the northern portion of the park of a modern bathhouse and pavilion has materially added to the convenience of visitors. Driven wells have been installed in this section of the park and camping stoves have been placed there for cooking purposes. At the southern point of the park signs have been erected warning bathers of the dangerous currents which make bathing risky to the uninstructed.

Bird houses have been constructed in suitable places. The usual migrants visited the park and several species of the smaller songsters remained until late in December. Cottontail rabbits have become a nuisance and steps are being taken to reduce their number. Muskrats have increased. The quail have multiplied and the ring-necked pheasants are holding their own and are strikingly attractive to observers.

The number of visitors to the park was distinctly in advance of the year, 1921. The estimate for that year was 7,000 while the estimate for 1922 may be placed at 12,000. Motor traffic has nearly doubled in volume.

FORT ANNE PARK, NOVA SCOTIA

It is estimated that more than 10,000 persons visited Fort Anne during the year 1922, 5,026 of whom registered in the administration building and received personal attention, while the rest contented themselves with inspection of the fort and the grounds. There are now six rooms and two corridors of the administration building—the old officers' quarters of the fort—furnished as a museum, and an "Acadian Room" is in course of preparation. It is also intended to furnish one of the rooms after the style of two centuries ago when they were occupied by officers of the garrison.

An interesting addition to the museum is a facsimile of General Monckton's commission "As Lieutenant-Governor of the Garrison of Annapolis Royal in America," signed by George III in the first year of his reign. This is the gift of Sir Frederick Williams-Taylor, who is owner of the original document.

The most interesting event of the year was the return of the key of the fort by the Massachusetts Historical Society, an act of great courtesy and generosity on the part of the society, which has had possession of the key since 1786. Upon the surrender of the fort by the last French general in 1710,

the key was taken to Boston by General Nicholson and passed to the possession of the Belknap family who handed it over to the Massachusetts Historical Society in 1786. Three prominent members of the society visited the fort on September 18 and formally returned the key as a gift to the Canadian nation.

The administration building has been repaired and re-roofed and much improved in appearance. The fort continues each year to attract more visitors and students of Canadian history.

ST. LAWRENCE ISLANDS PARKS, ONTARIO

The thirteen island national parks and one mainland reservation among the Thousand Islands of the St. Lawrence between Morrisburg and Gananoque have been largely utilized by campers and picnickers and they have continued to provide inexpensive and wholesome holiday facilities for the Canadian people in that part of the Dominion. Boy scouts, girl guides, school parties and similar organizations have now found it necessary to apply for camping permits well in advance of the season in view of the large demand for camping privileges. The parks are provided with stoves, pavilions, and other conveniences.

PROTECTION OF MIGRATORY BIRDS

The end of the fiscal year 1922-23 finds the Migratory Birds Convention Act in the sixth year of its enforcement and the marked increase in valuable forms of bird life, noticeable almost from the inception of the Act, is a matter for congratulation. This is particularly so as regards waterfowl. Reports show that a notable increase in numbers is apparent among these birds in all parts of the Dominion, except that a scarcity of brant and eider was noticeable along the Atlantic coast and in the gulf of the St. Lawrence, during the summer and autumn of 1922. This scarcity was probably due, in the case of brant, to a poor breeding season for this species, and in the case of eider to the invasion of the islands and the north shore of the gulf of St. Lawrence by a large number of white foxes which came down from the north in the early spring.

In July, 1922, the regulations under the Migratory Birds Convention Act were amended, the principal changes being adjustments of the open seasons in the different provinces, the inclusion of Alberta among the provinces, in which the sale of migratory game birds is prohibited at all times, the adjustment of bag limits, the alteration of the hours for shooting in Ontario, and the inclusion of a clause making the possession of night lights and firearms in places frequented by migratory game birds prima facie evidence of night shooting.

Special seasonal local conditions created the necessity for the appointment of four full-time temporary bird officers in the Maritime Provinces, during 1922. In March, 1923, one officer resigned from the permanent organization for the enforcement of the Migratory Birds Convention Act. With the exception of these cases the permanent staff of officers is unchanged. The appointment of 118 honorary officers was completed during the year, while 5 resigned. This leaves the present strength of the honorary officers at 318 including fishery and forestry officers co-operating, distributed as follows:—Prince Edward Island, 2; Nova Scotia, 54; New Brunswick, 38; Quebec, 32; Ontario, 65; Manitoba, 11; Saskatchewan, 19; Alberta, 37; British Columbia, 49; Yukon Territory, 1; Northwest Territories, 10.

In addition, the members of the Royal Canadian Mounted Police, to the number of 1,129 officers and men, make a total of 1,447 honorary officers operating under the Act.

The number of prosecutions instituted by officers of the branch, during 1922-23, was 36, as against 86 cases during the fiscal year 1921-22. The large falling off in the number of violations occurring is, no doubt, largely due to the better understanding by the public at large, of the need of, and the benefits to be derived from, a greater measure of co-operation in the observance of the provisions of the Act.

Of the 36 charges laid, convictions were secured in 23 cases, fines being imposed totalling $310, four cases were dismissed and nine charges were withdrawn, while three shot-guns, one revolver and two bird specimens were ordered forfeited to the Crown by the presiding magistrates.

During the summer of 1922 Mr. H. F. Lewis and three assistants spent three months on the Canadian Labrador investigating bird conditions there.

One hundred and seventy-three permits were issued during the year allowing the holders to take birds for scientific purposes, and 44 permits allowing the capturing of protected birds for banding purposes. Propagating permits to the number of 244 were issued, of which 23 were permits allowing the taking of protected birds, and 221 were permits to possess protected birds.

Permits to take migratory birds for propagating purposes, also allow the holders to possess, sell and transport such birds to another holder of a permit for propagating purposes, but in no case shall birds so taken be killed.

Permits to possess migratory birds for propagating purposes, also allow the killing of such birds in any manner except by shooting, and the unplucked carcasses or the plucked carcasses with heads attached, may be sold and transported except that birds taken under the first mentioned permit shall not be killed.

Additional restrictions affecting permits for propagating purposes have been imposed at the request of the different provincial governments as follows: Of the 23 permits allowing the taking of migratory birds, one, issued to a resident of British Columbia, does not permit the transportation of any birds taken under this permit; and one permit, issued to a resident of Alberta, does not allow the sale of any migratory birds taken under it. Of the 221 permits issued allowing the possession of migratory birds, five, issued to residents of Alberta, do not allow the sale of any birds possessed; 93, issued to residents of Ontario, do not allow the killing of any birds possessed; while nine, issued to residents of British Columbia, do not allow buying, selling, transportation, or killing of migratory birds possessed under permit.

During the year it was decided that a record of all birds banded in Canada should be kept by this branch and satisfactory arrangements were made with the Biological Survey at Washington, whereby this plan could be carried out.

Complete records of all birds banded in Canada and the United States have been kept at Washington for a number of years, and to avoid confusion only one set of band numbers is in use on the continent. These numbers are allotted and the bands are supplied to holders of banding permits by the Biological Survey.

Records of birds banded in Canada have been forwarded, by the banders, direct to Washington in the past, but under the new arrangements all holders of banding permits in Canada will submit their records to Ottawa, where copies will be prepared, after which the original records will be forwarded to Washington by this branch.

Since the inception of this plan 1,707 birds have been banded by Canadian bird banders, and records have been received of 118 returns of birds previously banded.

It is believed that much valuable information concerning bird migration will be collected in these records and it is proposed to publish in the *Canadian*

Field Naturalist lists of birds banded in Canada wherever retaken and lists of banded birds taken in Canada wherever banded, so that all students of ornithology may have access to them.

Fifty-nine taxidermists' licenses were issued during the year, bringing in a revenue of $59.

A round table conference of federal and provincial game officials was held in Ottawa on December 6, 7 and 8, 1922, under the auspices of the Canadian National Parks. All the provinces and territories, with the exceptions of British Columbia and Prince Edward Island, were represented at this conference, and a few other persons interested in the protection of birds and mammals attended. The proceedings of the conference were marked by a splendid spirit of co-operation, and all the resolutions adopted were adopted unanimously.

The resolutions dealt with many important matters, such as, a Dominion-wide educational campaign in the interest of wild life conservation; general prohibition of the sale of game; uniform adjustment of the bag limit for Canada and the United States; federal assistance for the provinces in controlling illegal shipment of game and fur; a gun license system for all hunting; alteration of present open and closed seasons for several species of birds; and protection of marine mammals.

The problem of controlling the wolf and coyote menace in the West was thoroughly discussed. The opinions of those taking part in the discussion were frequently at variance, but many helpful suggestions and interesting points were submitted.

It was obvious at the conference that both the provinces and the Dominion realize their distinct responsibilities in the matter of the guardianship and development of Canada's wild life resources, and that with intelligent conservation and utilization there is no reason why this natural asset should not be preserved and constitute a perpetual source of profit. It was felt that conditions in other countries, at least in so far as big game is concerned, are such that Canada is destined soon to enjoy a practical monopoly on this continent.

This branch was represented at the meeting of the International Association of Game and Fish Commissioners, held at Madison, Wisconsin, in September, 1922, and at the meeting of the American Game Protective Society, New York.

Many inspections were made during the year of areas recommended for reservation as bird sanctuaries and as a result action is being taken in connection with the establishment of sanctuaries on either Crown lands or privately owned lands in every province in the Dominion.

The need of public shooting grounds is becoming increasingly apparent and in this connection a number of areas have been recommended for this purpose. During the summer of 1922 inspections were made of numerous areas in Saskatchewan and Alberta and search is being made in the other provinces for vacant Crown lands suitable for this purpose.

That education is an important factor in wild life protection is fully appreciated by this branch and during the year 1922-23 posters, setting forth the provisions of the regulations under the Migratory Birds Convention Act, as applicable to whites and Indians, the restrictions against spring shooting, the molestation of swans and whooping cranes, were distributed to the number of 19,252.

Through the courtesy of the Post Office Department, the Canadian Pacific and the Canadian National Railways, posters, regarding the provisions of the regulations under the Migratory Birds Convention Act, were displayed at every railway station and post office in the Dominion.

Eighty-nine thousand two hundred and fifty (89,250) pamphlets on bird protection matters were distributed during the year, and in this connection it may be noted that the demand for the pamphlets "Bird Houses and Their Occupants" and "Bird Lessons" is so great that a reprint of 180,000 of the former was obtained in the autumn of 1922, and a reprint of 80,000 of the latter is now being prepared.

An order has recently been placed for the printing of 60,000 copies of a companion pamphlet to "Bird Houses and Their Occupants" entitled "Attracting Birds with Food and Water," and 12,000 copies of a pamphlet entitled "Facts about the Migratory Bird Treaty."

The members of the permanent staff gave 114 lectures during the year, most of which were illustrated by lantern slides. Motion picture films were also shown in many cases.

The library of lantern slides has been materially increased, 150 sets having recently been added. It now comprises 539 sets of slides covering 176 different species of birds. There are also in course of preparation some 230 sets from negatives loaned by the Department of Mines or from negatives, the right of reproduction of which has been purchased. Nine hundred and forty-one (941) slides were loaned to various bird protection societies, church societies, etc., during the last twelve months.

To encourage an interest in wild life protection matters among the boys of the Dominion, an arrangement was made whereby any boy scout passing the scout's naturalist test would receive a copy of "The Conservation of the Wild Life of Canada," by Dr. Gordon Hewitt. Up to the end of the fiscal year 414 of these books had been awarded.

HISTORIC AND PREHISTORIC SITES

Although the work of marking and preserving historic sites has only been in operation a short time satisfactory progress has been made.

Of the 700 sites to which the attention of the department has been called about 100 have been judged by the Historic Sites and Monuments Board to be of national importance and of these 27 have been acquired by patent and the virtual control of 14 others secured. Upon examination it was ascertained that six of these sites are already suitably marked and therefore require no further action at present. Ready co-operation is being accorded by provincial and local societies and organizations interested in the work.

Sixteen standard bronze tablets have been secured which it is proposed to erect on cairns constructed of rough field stone or large boulders.

An extended publicity campaign has been carried out through the press and the departmental bulletin in connection with sites selected for action in an endeavour to stimulate public interest regarding the early history of Canada.

The last report reviewed the steps taken with regard to sites selected for immediate attention. The following schedule contains a précis of additional action taken this year.

Maritime Provinces

Louisbourg, N.S.—Revised descriptions of the various properties included in the site were secured through the Department of Railways and Canals. An area of sixty-eight acres owned by that department has been leased to this department for memorial purposes.

Fort Cumberland, about four miles from Amherst, N.S.—Area five acres. Material for a fence was purchased and its erection partially completed.

Fort Edward, Windsor, N.S.—Area twenty-seven acres, on which are situated original blockhouse and ruins of officers' quarters. Blockhouse painted and matter of possible encroachment on property investigated.

Quebec

Fort Chambly, Chambly, P.Q.—Considerable progress has been made in connection with repair work on the exterior and interior of the massive stone walls to prevent further deterioration. A new roof was placed on the caretaker's quarters, and a fence around the cemetery. A collection of rare books, photographs and relics was added to the museum. The fort was visited by over six thousand people.

Fort Lennox, Ile-aux-Noix, P.Q.—Since the transfer of the site from the Department of Militia and Defence on May 18, 1921, considerable progress has been made in regard to the preservation of the old fort and general improvements have also been carried out on the island to make it attractive to tourists. These include the reconstruction of bridges on the east and south sides, the erection of two wharves, and two flag poles. General repairs were also carried out on the massive buildings, such as laying of floors, replacing of windows, painting of roofs, etc. A number of war trophies were secured and forwarded to the island where they have been prominently placed. A standard tablet will be placed at the entrance to the fort, also one on a suitable location on the island to commemorate the battle of Ile-aux-Noix. The increasing popularity of the fort is evident by the large number of tourists who visited the island last summer. These numbered about two thousand.

Battle of Eccles Hill (County Missisquoi), P.Q.—Site of the battle of May 25, 1870, between the Fenian Invaders and the Canadian Volunteers and Home Guards, the former being repulsed with heavy losses. A monument, erected four miles from Frelighsburg, in commemoration of this event, by the Dominion Government, together with the site on which it is located, was transferred from the Department of National Defence to the control of the Interior Department by Order in Council, of October 16, 1922.

Eastern Ontario

Glengarry Cairn, near South Lancaster, Ont.—Situated on Monument Island, St. Lawrence river, county of Glengarry. This cairn, of conical shape, fifty-two feet high and fifty-two feet in diameter at the base, with a winding staircase, was erected by the Highland Militia of Glengarry, which was concerned with the suppression of the Canadian Rebellion of 1837-38, to commemorate the services of the distinguished soldier, Sir John Colborne, who commanded Her Majesty's forces in Canada at this critical period. The property was purchased from the Department of Indian Affairs and a caretaker hàs been appointed.

Fort Wellington, Prescott, Ont.—Situated on the Provincial Highway within the town limits and comprises an area of eight and one-half acres, on which are situated a blockhouse, caretaker's dwelling and two other buildings. Constructed in 1812-13 as the main post for defence of the communication between Kingston and Montreal. Here was assembled the force which took Ogdensburg on February 22, 1813, and the troops engaged in repelling the invasion at the Windmill, November 11-13, 1838. The site has been transferred from the Department of National Defence to the control of the Interior Department by Order in Council.

Ernestown Shipyard, Bath, Ont.—Here was built in 1816 the first steamboat which navigated lake Ontario. A plot of land adjacent to the Provincial Highway at Finkle's point has been donated by Mr. Thomas Wesley Thompkins, upon which to have a cairn and tablet erected.

Point au Baril, Maitland, Ont.—Site of a small shipyard established by the French in the summer of 1758 near the village of Maitland. Here in April, 1759, they launched and completed two small ships of war, which were equipped and manned and continued to cruise lake Ontario until the conquest of 1760, when they both were taken. The site is privately owned by Dr. R. E. Webster, who has promised the Department of the Interior permission to place a tablet on the walls of an old tower located thereon.

Western Ontario

Mission of St. Ignace, Ont.—Situated in the township of Tay, on the farm of Chas. E. Newton. Site of Huron village captured by the Iroquois on March 16, 1649, and of the place to which Breboeuf and Lalement were brought and where they were tortured to death. No visible remains. An area of one and three-quarter acres, together with a right of way, has been donated to the department by Mr. Newton for the erection of a cairn and tablet.

Navy Island Shipyard, Ont.—Situated on Navy island, in the Niagara river, near Chippawa, Ont. Established under the direction of the military authorities in 1761 and maintained until 1763. Three small schooners and a number of smaller craft were built there. Owing to its inaccessibility, a monument and tablet are to be erected on the Niagara boulevard, opposite the island. Arrangements have been made with the Niagara Falls Park Commission for the erection of a monument.

Point de Meuron, near Fort William, Ontario.—Situated at the foot of the rapids on the Kaministikwia river. A portage point for the early fur traders and explorers. The de Meuron regiment wintered here in 1816. A site located at Pointe de Meuron Crescent has been secured for the erection of a cairn and tablet.

Port Stanley, Ont.—Situated at the mouth of Kettle creek. Site of arrival of Joliet in September, 1669, Dollier and Galinee in April, 1670, and the halt of Brock on his way to Amherstburg, Ont., August 9-10, 1812. The municipal council have, by resolution, donated a site at the junction of Bridge, Main, Joseph, and Colborne streets, for the erection of a cairn and tablet.

Western Canada

Northwest Rebellion, 1885.—It has been decided that the several sites associated with the Northwest Rebellion should be suitably marked.

Battle of Fish Creek, Saskatchewan.—Situated in a ravine on section 23, township 41, range 2, west of the 3rd meridian, about ten miles from Batoche. Site of the Battle of April 24 between Riel's forces and the troops under General Middleton. Legal Subdivision 15, was by Order in Council of May 24, 1916, withdrawn from the operations of the Dominion Lands Act and it was established a historical site under the control of this branch on January 17, 1922. A caretaker was appointed.

PRESENT WORK

In addition to extension of work on the foregoing sites, work is at present being laid out in connection with preserving and marking the following sites of national importance:—

Fort Lawrence, near Amherst, N.S.
Battle of Grand Pre, near Grand Pre, N.S.
St. Maurice Forges, near Three Rivers, P.Q.
Battle of Three Rivers, Three Rivers, P.Q.

Second Battle of Laprairie, Laprairie, P.Q.
Fort Sorel, Sorel, P.Q.
Fort Longueuil, Longueuil, P.Q.
Fort Charlesbourg Royal (Cap Rouge), P.Q.
Tadoussac, P.Q.
Three Rivers Massacre, Platon and Fort, Three Rivers, P.Q.
Coteau du Lac, P.Q.
Old Simcoe Building, Kingston, Ont.
Battlefield of Ridgeway, Ont.
Weishuhn's Redoubt near Willoughby, Ont.
Port Talbot, Ont.
Point Pelee, Ont.
Port Dover, Ont.
Sandwich, Ont.
Frog Lake Massacre, Alberta.
Duck Lake Battlefield, Sask.
Batoche, Sask.
Cutknife Battlefield, Sask.
Battleford, Sask.
Battle of Seven Oaks, Winnipeg, Man.
Fort Langley, B.C.

WORK FOR THE FUTURE

The following historic sites have been recommended for action by the Historic Sites and Monuments Board:—

Maritime Provinces

Champlain's habitation, Port Royal, N.S.
Landing of United Empire Loyalists, St. John, N.B.
Site of first printing press in Canada, Halifax, N.S.

Quebec

Hochelaga, Montreal, P.Q.
Fort Crevier, St. Francois du Lac, P.Q.
Battle of Lacolle and Lacolle Blockhouse, Lacolle, P.Q.
Fort Remy, P.Q.
Fort Cuillerier, P.Q.
Fort Senneville, P.Q.
Arbre-a-la-Croix (Cap Madeleine), P.Q.
Battle of Riviere-des-Prairies (Coulee Groulx), P.Q.
Lachenaie, near Terrebonne, P.Q.
Fort Ste. Theresa, near St. John, P.Q.
Odeltown, P.Q.
Battle of de Repentigny, P.Q.
Chateauguay Battle and Blockhouse, Allan's Corners, P.Q.
Gaspé, P.Q. (Landing place of Jacques Cartier).
Fort Gentilly, P.Q.
Fort Rolland, P.Q.
Fort Verdun, P.Q.
Madeleine de Vercheres, P.Q.
Lachine Massacre, 1689, near Montreal, P.Q.
Battle of Cedres, above Montreal, P.Q.
Fort St. Jean, St. John, P.Q.
Fort Maisonneuve, at Pointe Calliere, Montreal, P.Q.

Eastern Ontario

Glengarry House, near Cornwall, Ont.
Windmill Point, near Prescott, Ont.
Chrysler's Farm, near Morrisburg, Ont.
Gananoque, Ont.
Fort Levis, Batteries at Adam's Point, near Cardinal, Ont.
Fort Cataraqui or Frontenac, Kingston, Ont.

Western Ontario

Southwold Earthworks, near St. Thomas, Ont.
Mission of Ste. Marie I, near Midland, Ont.
Mission of Ste. Marie II, Christian Island, Ont.
Chippawa Battlefield, near Niagara Falls, Ont.
Frenchman's Creek Battlefield, near Bridgeburg, Ont.
Vrooman's Battery, near Queenston, Ont.
Battle of Cook's Mills, near Welland, Ont.
Battle of Fort George, near Niagara, Ont.
Battle of Beechwoods or Beaverdams, near Thorold, Ont.
Site of Tete de Pont Battery, near Chippawa, Ont.
Sault Ste. Marie, Ont.
Port Arthur, Ont.
Fort William, Ont.
Fort Nottawasaga, near Stayner, Ont.
Battle of the Longwoods, near Wardsville, Ont.
Fort Norfolk, Turkey Point, Ont.
Fort St. Joseph, near Richard's Landing, Ont.
Normandale Blast Furnaces, Normandale, Ont.

Western Canada

Clark's Crossing, now Clarkboro, about nine miles from Saskatoon, Sask.
Fort Pitt, Sask.
Fort Livingstone, Man.
Friendly Cove, Nootka Sound, B.C.

The Alpine Club of Canada

(Report prepared by the Secretary)

The club house had its usual quota of happy and contented guests all the summer season. The familiar climbs were made, but nothing original was attempted. Mount Norquay again proved a most interesting training climb. Many visitors came from the hotels to get information about the more remote mountain regions of Canada, and how best to visit them. The " facts " tourists pick up before visiting the mountains are often both remarkable and interesting. Members of European Alpine clubs seldom pass through Banff without making a call on the Alpine Club of Canada, which has become so well known since the congress at Monaco.

The most interesting and interested visitors were the delegates visiting Canada from both of the British Houses of Parliament, who examined the striking collections of maps and pictures of the Canadian mountain regions with great admiration and were strongly appreciative of the good work the club is doing for the country.

Mrs. Stone presented to the club, in memory of her husband, all the latter's albums of Canadian mountain views and a large collection of photographic

slides. These treasures will be a source of continued pleasure to many, and the gift is greatly appreciated. The memory of Dr. Stone will ever be kept green.

Major E. O. Wheeler has presented the club with two very fine enlargements, sixteen by twenty-one inches in size, of photographs taken by himself while on the Mount Everest expedition of 1921. One represents Mount Everest itself taken from above the 20,000 foot camp in the Kharta valley, the other, that singularly magnificent mountain, mount Makalu, taken from the north. These will add further distinction to the already very fine collection of pictures at the club house.

Mrs. Daniel Davies, of Edmonton, presented a beautiful water colour painting from her own brush, "The Sisters of The Selkirks". It was greatly admired. Mr. and Mrs. Maxwell, who at present live in the United States, gave a very handsome pair of andirons for the assembly room fireplace, a long needed and much appreciated gift. The guests at the club house came from all over Canada and the United States as well as from England, India and far away Australia.

REPORT OF THE ANNUAL CAMP AT PALLISER PASS

(Prepared by the Secretary)

The seventeenth annual camp of the Alpine Club of Canada was held at Palliser Pass summit from July 29 to August 12, 1922.

For the third time in its history the club held a camp at a long distance from the railroad and from any base of supplies. In 1913 a camp was held at Berg lake, at the foot of mount Robson; in 1920 at mount Assiniboine. Again as in 1920, advantage was taken of the exceedingly convenient camps of the mount Assiniboine walking tour route. Nights were spent at the Eau Claire, the fishing, and the trail centre camps. From the last the trail branched off that to mount Assiniboine and followed the Spray river to its head.

Palliser pass is the entrance to a magnificent mountain region which only became known to the world at large when the report of the Interprovincial Boundary Commission was published in 1916. It is, unfortunately, somewhat out of the way, but it is a country of the greatest interest. The mountaineering and the geographical public are looking forward to the issue of the second part of this report, in anticipation that other fine spheres of action may be revealed to them.

The camp was pitched close to Belgium lake at an elevation of somewhat less than 7,000 feet, in a most picturesque situation. The most prominent feature was mount Queen Elizabeth (of Belgium). Facing the ladies' quarters a striking waterfall came down from the Albert glacier above and the hillside was covered with mountain flowers. Late as it was in the season the glacier lilies (Erythronium) were plentiful, as well as other familiar friends.

A subsidiary camp was pitched at North Kananaskis pass in the centre of the British Military and Naval group. This was even more beautiful than the main camp and from it several good climbs were made. Close by was the striking Turbine canyon into which the stream from the Haig glacier drops by a circular funnel-like hole with a thunderous roar that suggests a turbine in action.

The climbing, on the whole, is more difficult than that surrounding the average camps of the club. Before the camp opened members had climbed—both first ascents—mounts Queen May and Birdwood. During the life of the camp first ascents were made of mounts King Albert, Maude, and Tipperary, and second ascents of mounts Jellicoe, Back, Sir Douglas, Beatty, and Queen Elizabeth. Mount King Albert was only conquered on the second assault.

The mount Sir Douglas party was a large one entailing slow going, and it was early in the following morning before the party reached home. The first party on mount King Albert was also benighted but in neither case was anyone the worse.

An attempt was also made on Sir Douglas from the Kananaskis camp, but it was found impracticable at about 800 feet from the top. On the same day mount Robertson was attempted via Haig glacier and the ridge from the col between Sir Douglas and Robertson, but the party had to turn back, reaching an impasse when almost at the top.

The return trip from Kananaskis to Palliser camp was made several times by way of the Haig glacier and the pass between mounts Robertson and Sir Douglas; thence by an unnamed glacier to the Spray valley. These glaciers had many glacier tables and interesting moulins.

The Swiss guides, kindly lent by the Canadian Pacific Railway Hotel Department, were Ernst Feuz and Rudolph Aemmer. As always, they gave excellent and highly appreciated service.

Among the guests present were Mr. A. L. Mumm, formerly vice-president of the English Alpine Club and a life member of the Canadian Club, who finds a charm in the Rockies of Canada different if not greater than that of the mountains on the three other continents on which he has climbed and explored. There were also two climbers of the early days, Sir James Outram, whose "In the Heart of the Canadian Rockies" is a mountaineering classic, and Rev. H. P. Nichols, of New York, whose name is associated with many of the early expeditions.

There were 107 placed under canvas, among them representatives of the Alpine Club, England, the American and Swiss clubs, the Appalachian Mountain Club, the Mountaineers, the Mazamas, the Sierra Club, and the Royal Geographical Society. Those present were drawn from the following portions of Canada, the British Isles, and the United States:—

Canada.—British Columbia, Alberta, Saskatchewan, Manitoba and Ontario.

British Isles.—England.

United States.—California, District of Columbia, Illinois, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Oregon and Pennsylvania.

PART III

FORESTRY

REPORT OF THE DIRECTOR OF FORESTRY, R. H. CAMPBELL

This report covers the work of the Forestry Branch for the fiscal year 1922-23, ended March 31, 1923.

Continued depression in the great agricultural industry of Western Canada in common with other parts of the world reacted adversely on the general economic conditions of the country. The very small decrease in Forestry Branch revenue ($2,405) is, under the circumstances, very satisfactory. It demonstrates the importance of the natural resources disposed of by this branch in fulfilling essential needs of the communities served. While the total number of permits to cut timber decreased, the quantity taken increased, particularly saw-logs and mining timber. The total number of stock grazed on forest-reserve ranges, as was to be expected, decreased about 10,000 head. Nevertheless, the number of individuals receiving grazing permits increased eleven per cent, indicating more widespread realization of the facilities available. It may be expected, therefore, that the amelioration of conditions in the stock industry will be reflected in increased use of forest range. Tree planting on prairie farms is rapidly assuming a new phase, namely, protection against soil-drifting, in addition to the original use in protecting buildings and beautifying surroundings.

FIRE PROTECTION

Manitoba and Saskatchewan had very favourable seasons from the standpoint of fire protection. In Alberta and British Columbia, on the other hand, the fire season was unusually severe. In Alberta the season was at least as bad as 1910, which has hitherto been considered the worst since the Forestry Branch established its fire-protection system. Since that year, though greater facilities exist for detecting and controlling fires, fire-hazards, especially those arising from settlers, campers, and railways, have greatly increased.

The total number of fires reported was 2,561; number of large fires, 575 (22·5 per cent of the total); total area burned over, 669,980 acres; area covered with merchantable timber, 187,364 acres; area covered with young growth, 200,099 acres.

FIRES WITHIN FOREST RESERVES

Cause	1922		1921		1920	
	Number	Per cent of Total	Number	Per cent of Total	Number	Per cent of Total
Unknown	60	11	32	11	43	20
Campers and travellers	51	9	28	9	28	13
Settlers	28	5	10	3	11	5
Railways	388	66	193	65	94	44
Lightning	12	2	9	3	27	12
Lumbering	.....	.....	.....	.....	2	1
Incendiary	34	6	23	8	2	1
Brush disposal other than by settlers	1	.....	1	.....	2	1
Other known causes	8	1	4	1	7	3
Totals	582	100	300	100	216	100

FIRES OUTSIDE FOREST RESERVES

Cause	1922		1921		1920	
	Number	Per cent of Total	Number	Per cent of Total	Number	Per cent of Total
Unknown	292	14	174	15	200	15
Campers and travellers	314	15	108	10	187	14
Settlers	705	35	329	29	106	8
Railways	486	24	370	33	596	46
Lightning	105	5	38	3	138	11
Lumbering	11	.....	12	1	24	2
Incendiary	76	4	20	2	16	1
Brush disposal other than by settlers	32	2	37	3	16	1
Other known causes	30	1	46	4	33	2
Totals	2,051	100	1,134	100	1,316	100

TOTALS OF ALL FIRES ON DOMINION LANDS

Cause	1922		1921		1920	
	Number	Per cent of Total	Number	Per cent of Total	Number	Per cent of Total
Unknown	352	13	206	14	243	16
Campers and travellers	365	14	136	10	215	14
Settlers	733	29	339	24	117	8
Railways	874	34	563	39	690	45
Lightning	117	4	47	3	165	10
Lumbering	11	.....	12	1	26	2
Incendiary	110	4	43	3	18	1
Brush disposal other than by settlers	33	1	38	3	18	1
Other known causes	38	1	50	3	40	3
Totals	2,633	100	1,434	100	1,532	100

AEROPLANE PATROL

Aeroplane patrols were continued in the Manitoba and Alberta districts. In Manitoba in two of the three fire-fighting districts the planes were used and a comparatively small ground force was required. All fires in these districts were promptly detected and put out, with one exception, a fire burning

in muskeg. In Alberta, the Rocky Mountains forest reserve from the International Boundary to the North Saskatchewan river was patrolled almost daily. The patrol sufficiently covered many parts of the reserves that are little travelled and difficult of access, and saved much of the rangers' time, which could, accordingly, be devoted to improvement work.

IMPROVEMENTS

In some districts, on account of the great amount of time spent in fire-fighting, improvement work was practically at a standstill. In others, good progress was made. The following is a summary of improvements:—

	Number		Miles
Cabins	5	Roads	¾
Ranger Station Houses	3	Trails	230
Stables	7	Telephone lines	114
Lookout towers	12	Fireguards (cleared)	52
		Fireguards (ploughed)	127¾

TIMBER OPERATIONS

Alberta reports an increase of a million feet of saw-timber taken out (constituting an increase of some twelve per cent over last year's figures). Other provinces, however, report decreases. In Saskatchewan the cut of cordwood was the largest on record, and Manitoba also reports an increased cut of fuel-wood. The cut of mining timber in Alberta showed a considerable decrease. In Saskatchewan a keen demand was experienced for railway ties. A striking feature of the timber operations in most of the provinces was the quantity of fire-killed and mature or overmature timber taken out, which will be a considerable aid to the better management of the forests. There has been close observance of the cutting regulations imposed by the forest-reserve regulations.

PLANTING ON RESERVES

During the year approximately 48 acres were planted on the various reserves. Some 138,090 trees, including 25,000 Scotch pine, 51,720 jack pine, 59,920 white spruce, 1,050 lodgepole pine, and 400 green ash were used for this purpose.

Approximately 50,000 of these trees were supplied by the nursery station at Indian Head, Saskatchewan, and the remainder were grown on small nurseries in various reserves. In addition, 114 pounds of jack pine and white spruce seed were used to sow about 36 acres.

GRAZING

The grazing industry has been passing through a period of depression, and consequently a decrease in the number of stock grazed is reported in all districts —that in Saskatchewan amounting to over 10 per cent. Conditions have been good in all districts, and cattle left the range in good shape. The benefits of co-operation as exemplified by the co-operative grazing associations are marked, and efforts are being made to make these associations still more beneficial by using this agency to encourage the breeding of better stock. Many inquiries are being received as to grazing possibilities in northern Alberta.

RECREATIONAL USES

The use of the summer resorts on the forest reserves is increasing. In Manitoba the Clear Lake summer resort in the Riding Mountain forest reserve had to be extended, and the demand for camping permits and summer-resort

lots in the British Columbia resorts was greater than could be met. In Saskatchewan one new summer-resort subdivision was opened for leasing. In order to take better care of the trout fishing on the British Columbia reserves a small hatchery was installed near Paul lake by the Department of Marine and Fisheries; varied success was obtained in the "planting" operations. In the Riding Mountain forest reserve, in Manitoba, the herd of elk is increasing (the reserve having been closed for big-game hunting for the past two years) and is now the largest elk herd in Canada.

RECONNAISSANCE

In Manitoba the reconnaissance of the country east of lake Winnipeg was continued, and included a detailed survey of the country along the Maskwa river and rapid reconnaissance of the country along the Little Black river. A survey and estimate of the Roaring River basin in the Duck Mountain reserve was started, and traverse surveys made of a number of roads in the Riding Mountain and Duck Mountain reserves.

In Saskatchewan detailed surveys were made of the Nisbet reserve and parts of the Pines, Pasquia, and Porcupine reserves, which gave information for an intensive forest-cover map.

In Alberta a grazing reconnaissance was made on the Crowsnest forest.

In British Columbia a forest-cover and topographical map of the Larch Hills reserve was made, together with a study of the different timber types.

TREE PLANTING ON PRAIRIE FARMS

Every year interest in tree planting on prairie homesteads is increasing. This is partly due to the efforts to establish field-shelters for the purpose of checking soil-drifting, partly to the desire of those who already have well-established shelter-belts to extend them. The number of such field-shelters planted this spring promises to treble those planted in 1922.

Weather conditions in the season of 1922 were generally favourable except for drought in certain parts of Alberta and Saskatchewan. Even in these latter areas the trees showed a very large proportion of survivals, due, doubtless, to the thorough soil preparations insisted on before planting. More detailed reports in regard to plantations were required of the promoters of tree planting in 1922. These showed that out of 832 plantations 71 per cent were good and 21 per cent fair. These latter, with a little more care for the next few years, can be put in good condition. Compared with plantations made under similar government schemes of co-operative planting in other countries, this showing seems quite satisfactory.

Conifer (evergreen) plantations have come through surprisingly well. This applies even to areas which have suffered severely from drought. Of lodgepole pine planted in central Alberta in 1916, the full 100 per cent has survived, and the average height attained is 7 feet 2 inches.

Rather more than the usual amount of damage was reported from hail in 1922, but practically no winter-killing. Insect pests were reported quite generally. The Russian poplar is afflicted by an insect, lately introduced, a kind of borer, whose attacks may seriously affect the usefulness of the Russian poplar for prairie planting. The season of 1922 was favourable for propagating most kinds of trees. Young green ash at Indian Head, however, were smothered owing to the caking of the soil caused by excessive spring rains, and a fine stand of freshly sown white spruce was "burned off" just after germinating, owing to extremely dry, hot weather. The number of applicants who received broad-leaved stock was 4,064, and 254 received conifers. Over four and a half

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million trees were distributed, and this spring (1923) nine and a quarter million are available for distribution. A considerable quantity of tree seed was collected and extracted; the supply of spruce, however, was extremely scanty. About fifty thousand conifer (evergreen) transplants were supplied for planting on the forest reserves, and experiments in direct seeding were continued on the Spruce Woods forest reserve in Manitoba.

FOREST PRODUCTS LABORATORIES

The fiscal year 1922-23 shows marked increase over 1921-22 in the number of requests for technical information and services, just as 1921-22 did over 1920-21, and the experimental paper-mill was employed more than in any previous year. The past year, too, has seen the largest and most varied research work of any year in the history of the laboratories. The chief problems under investigation included the making of sulphite pulp from jack pine, the making of wood-pulp from fire-killed spruce and balsam fir, the recovery of good paper stock from condemned paper currency withdrawn from circulation, the determination of the burning temperature of exposed chips in sulphite cooking, the feasibility of applying the freeness test as a control in ground-wood production, and the chemistry of cellulose. Of these the second, third, and fourth were successfully completed; the others are still under investigation. The Division of Timber Physics began a study of the built-up type of construction (plywood or laminated wood), especially as applied to sporting goods, kiln-drying, water storage of ground-wood pulp, and the decay of timber in buildings. In the last two studies valuable results were obtained. The preparation of the reference collection of microscopic slides of wood was continued. The Division of Timber Tests continued their work of testing the strength functions of Canadian commercial timbers, made further investigations in regard to the nail-holding characteristics of woods, and conducted research on the value of glues of various kinds for joint work and the strength values of Canadian woods for tie purposes. In the Division of Wood Preservation the major investigations were the creosote treatment of maple and aspen poplar for railway ties, and the treatment of Canadian hardwoods for top pins and pole brackets for use in connection with telegraph and telephone lines. Many other minor investigations were also carried on. A number of exhibits of forest products and articles derived therefrom were prepared. Many technical articles and brief newspaper items were prepared by the staff during the year.

FOREST RESEARCH WORK

The scheme of investigation as outlined in the report for the year 1921-22 was followed during the past fiscal year. Investigations were carried on in Ontario, New Brunswick and Quebec, and on the Dominion forest reserves in the western provinces.

In New Brunswick studies subsidiary to the work at the Bathurst experimental area were undertaken in co-operation with the New Brunswick Forest Service, and with Mr. P. Kingston, Wayerton, Northumberland county, and Mr. W. S. Anderson, Cain river, York county. At Wayerton a regeneration survey was carried on, and on Cain river preliminary arrangements were made for an experimental cutting.

At the Petawawa forest experiment station in Ontario, the work carried on consisted mainly of investigation of methods of handling young growth coming in after logging or after fires. This particular problem is of importance now and will assume greater importance as the present supplies of pine, spruce, and other softwoods decrease.

At the Lake Edward forest experiment station in Quebec, investigations of methods of handling severely culled pulpwood lands in the yellow birch or hardwood type were continued.

The work on methods of estimating standing timber for commercial purposes has now reached the stage when results can be applied to five of the main forest species in Eastern Canada. About fifty separate investigations on the majority of the main species have been carried on throughout the East and on the Dominion forest reserves in Western Canada. Measurements have been made on about 5,000 trees. The specific object of this work was to develop general data, applicable over wide regions, from which data local tables can be prepared to suit local conditions. The results obtained from these separate investigations have been co-ordinated, and it has been demonstrated that general taper tables can be applied to three species in the regions noted, namely: (1) balsam fir in Quebec, New Brunswick, and Manitoba; (2) white spruce, red spruce, and black spruce in Quebec, Ontario, New Brunswick, and Manitoba; and (3) white pine in Ontario.

From these general taper tables it is possible, subject to the collection of a small amount of local data, to develop local volume tables for any product, or to conform with any type of operation desired. The work on red pine, jack pine, lodgepole pine, and other species is in progress. There is every indication that successful results may be obtained for these species also.

Measurement and study of yield of the important Canadian species in the natural and thinned forests, as related to the problem of securing the highest production, was continued, this work being carried on simultaneously with the work on methods of estimating.

FOREST RESOURCES AND STATISTICS

The work of this division is being constantly broadened and extended, by co-operation with outside agencies and otherwise, in an effort to meet and serve the public needs most fully and satisfactorily, and especially with regard to providing fuller and more reliable information on the location and extent of Canada's commercial forest resources.

So far as forest conditions are concerned, two main considerations govern the framing of any Canadian forest policy, whether federal or provincial, which seeks to harmonize annual cut with annual growth, namely, for any given area, first, the acreage and quality of mature timber, and, second, the acreage and growth-rate of the reproduction.

To secure at least approximate answers to these two questions, the Commission of Conservation undertook to carry out a comprehensive forest survey of Canada, province by province; and, when the commission was disbanded in 1921, Nova Scotia and British Columbia had been covered and surveys in Saskatchewan and Ontario were well under way. This work was taken over by the Forest Resources and Statistics Division of the Dominion Forest Service, and the Ontario survey is now nearing completion. In this general forest inventory or stocktaking much the same methods are being employed as were successfully adopted in the survey of British Columbia. Through co-operation with the lumbermen and pulp concerns, estimates of their holdings are being secured and compiled. The mass of data in the hands of the Provincial Government is also freely available. The fullest co-operation, too, is being given by the banks, railways, and other persons or companies who may possess information of value. Finally, in order to relate these estimates, and check them where desired, it is necessary to do considerable direct field-work of a reconnaissance nature. It was at one time expected that this project would be rapidly advanced by the use of aeroplanes in co-operation with the Air Board

of Canada, and considerable information has been secured in this manner, especially through the co-operation of the Provincial Forestry Branch, which has carried on extensive aerial surveys during the last two years.

In addition to the above special investigation, all the available information concerning the forest resources of Canada is being compiled and the estimates of the total stand of merchantable timber in Canada are revised from time to time as more definite and authoritative information is secured.

During the fiscal year under review, considerable work was done in the matter of collecting and compiling statistics dealing with the use and manufacture of forest products, both in co-operation with the Dominion Bureau of Statistics and independently. This work involves revising of schedules and checking and editing of final reports. One such investigation made by this division covers the probable supply, utilization, and relative heating values of the different fuel-woods used in Canada as compared with mineral fuel, and in connection therewith a report was prepared and presented before the Canadian Mining Institute in Montreal. It was also published for distribution.

Inquiries are constantly being received by this division, asking for definite information in regard to the amount and location of supplies of timber for use in woodworking industries, particularly with reference to the rapidly expanding pulp and paper industry. This phase of the work now involves considerable correspondence, and it is felt that the information thus being made available to persons and companies seeking to locate new industries in this country is serving a most important and useful purpose.

PUBLICATIONS AND PUBLICITY

During the year the following new publications have been issued: Bulletin No. 72, "Success in Prairie Tree Planting"; Bulletin No. 73, "Tree-repairing"; Bulletin No. 74, "Distillation of Hardwoods in Canada"; Circular No. 14, "Commercial Forest Trees of Canada"; Circular No. 15, "Historical Sketch of Canada's Timber Industry". Monthly news-letters were sent to newspapers, and other means of publicity, particularly in regard to forest fires, were continued. Arrangements are also being made to have messages regarding forest fires broadcasted from some of the radio broadcasting stations.

THE LIBRARY

The preparation of monthly lists of accessions, which are mimeographed and circulated among the officers of the branch and a number of forestry officials, foresters, and others interested, and also of special bibliographies or reference lists has been continued. The subject index of photographs has been brought up to date, and now includes some 13,000 entries; a geographical list is also being prepared. During the year 573 books and pamphlets and 1,092 photographs were added to the library. Book loans totalled 673, and 2,857 cards were added to the index.

STAFF

The total permanent staff of the Forestry Branch for the past year was as follows:—

Head office	60
District inspectors	4
Assistant district inspectors	2
Forest supervisors	18
Foresters and forestry assistants	25
Forest rangers	93
Chief fire rangers	11
Promoters of tree planting	8
Forest Products Laboratories technical staff	26
Outside clerical staff	47
	294

APPROPRIATIONS

The appropriation for the fiscal year was $1,000,000; to this are to be added refunds from fire-guarding, etc., $35,392.72. The total available for expenditure was thus $1,035,392.72. The expenditure was divided as follows:—

Salaries at head office	$ 25,595 90
Travelling expenses	3,809 29
Printing and stationery	2,771 34
Miscellaneous expenses	12,972 52
Statistics	4,427 50
Fire-ranging	287,480 81
Forest reserves	472,538 62
Surveys and research	66,120 11
Tree planting	71,368 25
Forest Products Laboratories	84,746 46
	$ 1,031,830 80

The field expenditure in the western provinces, exclusive of tree planting on prairie farms, is divided as follows:—

Manitoba	$ 99,614 04
Saskatchewan	185,198 05
Alberta	291,570 43
British Columbia (Railway Belt)	200,700 08
	$777,082 60

THE TREE-PLANTING DIVISION

Norman M. Ross, Chief

Generally speaking, the season of 1922 was favourable for tree-planting work over the greater portion of the three Prairie Provinces. Certain restricted areas suffered again from extreme drought, but with the exception of these comparatively small areas the rainfall was normal and in some districts even above normal, particularly in spring and early summer.

In the dry areas mentioned a summary of inspection reports indicates that early in the season the freshly set out plantations showed 94 per cent of plants living. Later, however, owing to the prolonged drought during the growing season, the plantations in these districts, especially those of cuttings, suffered, though the rooted seedlings held their own fairly well. The average of all the varieties in the plantations would be about 85 per cent living. This is considered a splendid showing under the conditions, and can be accounted for only from the fact that trees are supplied for planting only on well-prepared summer-fallowed land.

In the more favourable sections, which comprise at least three-quarters of the area covered by the branch's distribution the inspection of living, freshly planted stock showed 98 per cent of rooted stock and 90 per cent of cutting stock.

In the inspection district covering the southern and eastern portion of Saskatchewan 832 plantations varying in age from 3 to 15 years old are reported as 590 (71 per cent) good, 175 (21 per cent) fair, and 67 (8 per cent) poor. All the plantations reported fair can be put in good condition if the owners will give them a little more care during the next few years. These results compare favourably with those obtained in the northern prairie states as given in Bulletin No. 1113 of the United States Department of Agriculture.

General interest in tree planting is becoming keener each season. From lists compiled to date it is evident that the total number of trees sent out will be over two and a half millions greater than the number set out in 1920.

Two things are particularly noticeable in the correspondence this spring: one is the very large number of farmers who set out small shelter-belts perhaps eight to ten years ago who are feeling the benefits of these earlier plantings and are now anxious to extend their plantations; the other striking feature of the work is the numerous inquiries received regarding field-shelters, to protect crops from soil-drifting. Until two years ago no demand was expressed for stock for other than shelter-belts to set immediately around the farm buildings and gardens. In 1922 stock was supplied for thirty-two field-shelters, and this spring over 100 farmers are arranging to set out field shelter-belts. These field-shelters consist generally of from one to four rows that have been planted, to start with, along the outside edges of the farms; later, secondary belts will be, and in some cases already have been, planted at suitable intervals across the cultivated fields. It is hoped that such belts will not only help to lessen loss from soil-drifting, but will tend to control the spread of such weeds as Russian thistle.

Extremely encouraging reports are received from every inspection district in regard to results with conifer (evergreen) plantings. The species sent out from the nurseries are white spruce, Scotch pine, jack pine, and lodgepole pine. During the past season very few of the newly-planted trees failed, and several reports show 100 per cent living. Even in the areas which have suffered drought the conifers are showing up splendidly, as the following figures covering plantings in central Alberta clearly demonstrate:—

White spruce, planted 1916, height 6 ft., 98 per cent living.
Lodgepole pine, planted 1916, height 7 ft. 2 in., 100 per cent living.
White spruce, planted 1918, height 5 ft., 97 per cent living.
Scotch pine, planted 1918, height 5 ft. 4 in., 94 per cent living.
White spruce, planted 1922, 96 per cent living.
Jack pine, planted 1922, 93 per cent living.
Scotch pine, planted 1922, 94 per cent living.

Undoubtedly these hardy conifers (evergreens) are particularly suited to prairie planting and, once established, seem to withstand all kinds of neglect, though they respond readily to good cultivation.

Rather more damage than usual was reported during the past season from hail, but no winter-killing was reported except in south-central Alberta, where maple, set out one or two years previously, was slightly cut back. Experience shows, however, that winter-killing seldom affects these trees after the third or fourth season.

Insect pests, such as canker-worm on the maple and certain species of aphis on poplars and willows, were reported pretty generally, but these can all be controlled with a fair degree of satisfaction by the use of insecticides ordinarily available. Very serious outbreaks of tent caterpillars were reported as doing a great deal of damage to native " bluffs " and poplar stands. These outbreaks were most serious in the Moose mountains, in southeastern Saskatchewan, and in an area south of Edmonton. No damage was reported from tent caterpillars in any cultivated plantations, but this insect may be found rather troublesome during the coming summer.

A new pest affecting young Russian poplar was reported in 1921 for the first time, but was found much more plentiful in 1922. The injury is caused by the larva or grub, apparently of a species of moth, which enters the stem of freshly rooted Russian poplars at a point level with the ground-line. It bores into the stem and develops there, weakening the plant to such an extent

that in the fall of the second season the stem breaks off at the ground-line. In some new plantations from 30 to 50 per cent of the young poplars were broken off from this cause. It is not known yet just what effect this will have on the injured plants, but it is being closely watched because if it proves to be a serious pest the result may be greatly to restrict the use of Russian poplar in prairie plantations.

Nursery Work.—The stock raised at both Indian Head and Sutherland nurseries was of excellent quality; the season was, on the whole, a very favourable one for the propagation of most species. Owing to continuous heavy rains in the early spring the soil in the plots sown to ash became so packed and hard that the young plants could not break through. The surface was so hard that the harrows had no effect on it. As a consequence, these plots were a complete failure and there will be no ash available from Indian Head nursery for 1923. A larger area of caragana was sown in the fall of 1922 to take care of this shortage. The only other crop suffering was freshly-sown white spruce. Just at the time these were germinating there occurred an intensely dry, hot period, and a beautiful stand of young plants was completely "burned off," as there were no facilities for watering. A pumping plant with an overhead watering system was installed later in the season, which will, it is hoped, prevent similar loss in the future.

Distribution of Broad-leaved Stock.—Shipping of broad-leaved stock commenced April 29 and was completed May 11 as follows:—

Number of applicants receiving trees	4,064
Seedlings and cuttings distributed	4,625,225
Average number per applicant	1,150
Number of applicants on inspection list, 1922	8,186
Number of new applicants on inspection list for 1923, approximately	2,061

The following stock of broad-leaved material is available this spring (1923) for distribution at the Indian Head and Sutherland nurseries: Manitoba maple, 2,168,000; green ash, 2,280,000; Russian poplar, 854,000; red willow, 344,000; acute-leaved willow, 516,000; laurel willow, 582,000; caragana, 2,528,000; total, 9,272,000.

Distribution of Conifers.—Shipments started May 17 and were completed May 20. Applicants numbering 254 were supplied with conifer transplants, at a nominal charge, as follows: White spruce, 21,900; jack pine, 7,250; Scotch pine, 17,850; total, 47,000. In addition to these, 50,000 transplants were shipped for planting on the forest reserves, making a total of 97,000 conifers sent out.

Collection of Tree Seed.—Maple seed to the amount of 2,858 pounds was collected, mostly at Dauphin; 236 pounds of ash seed were collected in the Qu'Appelle valley, and 500 pounds of caragana seed were collected on the nursery.

Twenty-eight and one-quarter bushels of lodgepole pine cones collected in the foothills gave eight pounds of clean seed; 92 bushels of jack pine cones from the Prince Albert district gave 52 pounds of clean seed, and 5 bushels of white spruce gave 4 pounds of clean seed. This was not a seed year for spruce in any part of the country. The seed was all extracted and cleaned at Indian Head.

In the spring of 1922, 40 pounds of maple seed, 30 pounds of ash, and 65 pounds of caragana were distributed among 121 applicants.

Planting in the Forest Reserves.—Stock for planting on the forest reserves was shipped as follows:—

Manitoba—			
Riding Mountain	1,800 spruce,	1,600 jack pine,	500 Scotch pine.
Duck Mountain	750 "	750 "	750 "
Spruce Woods	1,400 "	1,150 "	7,000 "
Turtle Mountain	1,050 "		
Saskatchewan—			
Nisbet		1,750 "	5,475 "
Dundurn		1,750 "	2,775 "
Beaver Hills	5,000 spruce,		
Alberta—			
Crowsnest	2,500 "	1,500 "	4,250 "
Bow River	2,500 "	1,500 "	4,250 "

For continued experiments in direct seeding on the Spruce Woods reserve in Manitoba, 50 pounds of jack pine seed were forwarded to be sown in the spring and 20 pounds to be sown in the fall of 1922. Previous sowing had been made principally broadcast, the seed-bed having first been disked in order to secure a certain degree of preparation of the soil. This season most of the seed was put in with an ordinary grain disk-drill without preparing the seed-bed in any way in order to test this method.

Dominion Forests in Manitoba

H. I. Stevenson, District Forest Inspector.

The Manitoba inspection district office is charged with the administration and protection of the Dominion forest reserves within the province generally and with the protection of timber on Crown lands within the province.

Fire Protection.—The summer of 1922 was one of comparatively low fire-hazard. Rainfall was above the average for all parts of the province except the northern districts. Early frosts followed by high temperatures and strong winds culminated in a great danger period during the last week of September, which condition was relieved by general rains on October 4. By the end of October there was no longer any danger of fires running and patrols were discontinued for the year.

The total number of fires during the summer was 107. Of this number 27, or 25 per cent, burned over 10 acres. This shows an improvement over the preceding two years; in 1921 large fires (over 10 acres) formed 38 per cent of the 86 fires reported, and in 1920 the percentage was 54 with a total of 122 fires. This reduction in the percentage of large fires is due to improvements in organization and increased efficiency of the staff. These 27 large fires of last year burnt over 27,851 acres, of which a little over 2,000 acres contained merchantable timber and about 8,000 acres young growth, the remainder being old burns, grass land or muskeg.

The forest-reserve staff handled 15 large fires, of which 8 were outside the boundaries of the reserves. These 8 fires were on agricultural land and were started by settlers. They were fought by the reserve staffs in order to prevent their spread to the reserves. The volunteer fire-fighting organization inaugurated the preceding year amongst the settlers adjacent to the reserves has given satisfactory results.

Four additional fire pumps were purchased and sent to central points throughout the province. These proved most efficient.

The operation of the seaplanes and the handling of fires were greatly facilitated by the radio stations established at Winnipeg, Victoria Beach, and Norway House by the Canadian Signal Service. Messages were sent from Winnipeg to Norway House and replies received in a few hours—an exchange which formerly took weeks. This rapid means of communication enabled the inspection office to keep in close touch with the aeroplane operations and with the Manitoba North district.

Aeroplane Patrols.—In the fire-ranging districts patrols were carried out largely by the use of seaplanes. These machines did very efficient work while they were in operation but, owing to a series of accidents, not enough machines were available for the service, which in some localities had to be supplemented by canoe patrols. The Manitoba North and Manitoba South districts were patrolled by the planes throughout the summer, being supplemented by only a small ground force. All fires in the country patrolled by them were sighted before they had gained much headway and were easily extinguished with the exception of one at the outlet of lake Winnipeg. This fire was burning in muskeg and gave considerable trouble before it was finally put out. The planes have proved their usefulness in fire detection and suppression, but from the last season's operations the necessity of having a surplus of machines in reserve was strongly emphasized.

Improvements.—Portions of the Duck Mountain reserve are not yet easily accessible and considerable improvement work must be carried out here. On the other reserves lines of communication and transportation with the necessary buildings for the staff have been established and but little new construction will be required.

Silviculture.—Due to the continued financial depression, very little saw material was cut from the reserves during the winter, but there was an increase in the number and amount of permits taken out for fuel. Aspen was the principal species cut for this purpose, and as it covers extensive areas, is badly diseased, and is growing faster than it is being cut, this is a distinct advantage.

A number of plantations of an experimental nature were established on the various reserves, and as the season was very favourable for growth they are doing well. Many of the plantations made in previous years are showing gratifying results, and valuable information is being obtained from these plantations. Some sowing has also been done, but without satisfactory results to date. During the past winter the cutting of poplar on certain specified areas was permitted free of dues. These areas were clear-cut, and it is the intention to burn these broadcast and sow spruce seed. If a good seed-bed can be prepared by burning, these extensive poplar areas can gradually be converted into valuable spruce forests. Seed-beds of spruce and jack pine were established at a number of ranger stations.

The technical staff attached to the district have been carrying out various lines of investigative work. Work on the permanent sample plots previously established was continued and several new plots established. A preliminary report on the silvical conditions on the Riding and Duck Mountain reserves was prepared through the co-operation of this staff.

Surveys and Estimates.—The survey and estimate of timber started in 1921 on the east side of lake Winnipeg was continued. This year the country along the Maskwa was examined in detail and a rapid reconnaissance made along the Little Black river.

A survey and estimate of the timber tributary to the Roaring river in the Duck Mountain reserve was started. This work will be completed next year.

Grazing.—Owing to the general depression, grazing on the forest reserves has fallen off during the last few years. During the past year the number of permits issued and the number of head grazed were below normal. It is expected that with the revival of business the forest reserves will be used to a much greater extent than heretofore. The stockmen and farmers are now fully aware of the advantages of these reserves for summer feed and when the market justifies the building up of their herds numerous requests for pasturage may be expected. The co-operative grazing associations are growing in favour and are encouraged in every way.

Cattle on the range did very well last summer, and they were well conditioned in the fall. No loss of stock was reported from any of the reserves.

Recreational Uses of Forest Reserves.—Owing to the proximity of the forest reserves in this province to towns and villages they are being used more and more for recreational purposes. The summer resorts established at Madge lake in the Duck mountains and at Clear lake in the Riding mountains are growing in popular favour. At the Clear Lake resort it was necessary to extend the subdivision to a total of 129 lots.

Game.—The Riding Mountain reserve has, by a provincial Act, been closed for big-game hunting for the past two years and it is gratifying to note that the elk on this reserve are increasing under this protection. This herd of elk is the largest in Canada. Big game on the Duck Mountain reserve is on the decrease, and a close season on this reserve may also be necessary.

Dominion Forests in Saskatchewan

C. MacFayden, District Forest Inspector.

It is estimated that south of the Churchill river in Saskatchewan there are 32,000,000 acres of forest land unfit for agriculture through being too broken, too light, too rocky, too wet, or for some other reason. This does not include most of the poplar lands in the northern part of the province, which are recognized as frequently of a very high agricultural value when cleared. Of this 32,000,000 acres about one-fifth (somewhat over 6,000,000 acres) has been set aside as forest reserves, and the administration of the timber and other resources on these constitutes a large part of the work with which this office is charged. In addition to the work arising out of the reserves this office is also responsible for the maintenance of a fire-protective organization on all Dominion lands carrying merchantable or potential timber supplies.

Very little land has been withdrawn from the forest reserves as being suitable for agriculture. On the whole the reserve boundaries as they now exist fairly divide the agricultural from the non-agricultural, or forest lands.

The department has in a number of instances during the year, at the request of the owners, given vacant homestead lands in exchange for patented lands within the reserves which had proved unsuitable for agriculture.

Fire Protection.—Like the preceding two years, that under review was, in this province, a very favourable one from a fire-protection standpoint. Owing to the spring being rather backward and drawn-out the dead vegetation of the previous year did not dry out before the new green vegetation came on, and this practically did away with the fire risk at this season. The latter part

of September proved very dry; for a short time numerous fires were running, and the situation became quite critical until again rendered safe by a fall of snow and rain.

During the year there were 107 fires reported, 60 per cent of which occurred on forest reserves. Fifty-four of these, or almost exactly 50 per cent, did not reach 10 acres in size, although the remaining 53 covered some 55,000 acres. It is gratifying to note, however, that only a small part of this (1,334 acres) carried merchantable timber, and more than half of it was grass land, muskeg, and old burn. The greatest loss was the 18,203 acres of young growth burned.

The clearing of land for settlement continued to be the greatest source of fires—almost 50 per cent of the total. Campers were next in order and were responsible for one-third of the total. The railways, which were at one time such a prolific source of fires in Saskatchewan, were in 1922 only minor offenders.

Improvements.—Very fair progress was made in the improvement plan of most of the forest reserves and fire-ranging districts during the year. A decided advance was made in the construction of fireguards, particularly on the smaller reserves and those adjacent to settlements. It is found that by far the greatest proportion of fires originate outside the reserve boundaries, and well placed fireguards reduce the damage to reserve forests and lessen the expenditure for fire-fighting. Eventually it is hoped to have a network of well arranged fireguards covering a number of the reserves, so that at the worst fires can be confined to comparatively small blocks. During the year there were 117 miles of guard ploughed for a width of at least 12 feet, and 52 miles cleared for a width of from 30 to 66 feet.

The lookout system of the district was augmented by the addition of eight towers, two of these being of standard steel construction 80 feet high, and the other six being wooden towers erected by the rangers and varying from 40 feet to 60 feet in height. Several of the latter were erected in the fire-ranging districts. The city of Prince Albert granted authority for the use of the city's standpipe as a central control tower for the Pines and Nisbet reserves. This tower was equipped with an Osborne fire-finder and connected by telephone with each of six towers on the reserves.

During the year the telephone system on the reserves was extended by the addition of 81 miles of line. On Fort à la Corne reserve two five-roomed dwellings were erected during the year, both of these replacing old buildings erected years ago that had outlived their usefulness. In addition to the major projects mentioned, a great many small improvements were made or maintained by the ranger staff.

Grazing.—During the year there were 739 permits issued authorizing the grazing of stock on the different forests. These permits represented a total of 33,189 head of stock, a decrease of approximately 4,000 on the total of last year due to market conditions. The grazing of stock on the co-operative plan by small associations continues to grow in favour, and there are now about thirty of these associations in this inspectorate. Now that the principle is thoroughly established, the time seems ripe to encourage a more intensive application of it, particularly along the line of building up better herds.

Silviculture.—Timber operations under the authority of permits remained about stationary or with only a small decrease as compared with last year, when the volume of this business was the greatest on record. Altogether there were 1,358 permits issued and of this number 823 were paid permits, the dues on which amounted to $12,890.12. The great bulk of material disposed of in this way was fire-killed in 1919, and its removal, besides benefiting the permittee and constituting a source of revenue, to an appreciable extent lessens the

fire-hazard. From the latter standpoint the removal of fuel-wood is proving the most satisfactory, as in these operations all sizes and species and a wide range of grades can be taken, and on many cutting areas nothing remains when the operation is completed but the young growth and green material. Cord-wood operations have been particularly encouraged for this reason and a new record was this year created when 35,228 cords were taken out. The cut of building logs, fence-posts, poles, and other material required for farm purposes remained about the same as in previous years, but the logs cut for sawing decreased by over one-half.

The past winter was active in operations on timber sales and the sixteen sales in good standing produced about 6,000,000 feet board measure, in addition to 2,000,000 lath and 2,600 ties. No difficulty was experienced in having the regulations regarding cutting methods and the disposal of debris, complied with.

Planting and nursery work, especially the latter, received very much more attention than heretofore. Small nurseries are now established on the Big River, Nisbet, Pines, Fort à la Corne, Pasquia, Porcupine, Beaver Hills, and Dundurn reserves. A number of these are showing very satisfactory results.

Approximately 90 bushels of jack pine cones were collected in the fall of 1922 and shipped to Indian Head for extraction.

Surveys.—An intensive cover-type survey was made of the larger part of the Nisbet forest reserve, and part of the Pines, Pasquia, and Porcupine reserves. The object here was to secure complete and accurate data on the conditions of the forests as a basis for formulating a timber-sale policy leading up to working plans. The information gained shows what species, age-classes, and mixtures or types exist, and inventories the amounts. It also adds very materially to existing information on the topography of the country covered.

Recreation.—The use made of the various forests as recreation grounds is becoming more general, although no great increase was noted during the year just past. No new summer resorts were laid out, but the Moose Bay subdivision in the Fish Lakes resort on the Moose Mountain forest was thrown open for leasing.

Dominion Forests in Alberta

C. H. Morse, District Forest Inspector

The work of the Forestry Branch in Alberta consists in the protection and administration of the Dominion forest reserves within the province and the protection from fires of forested Crown lands which have not yet been included in the reserves or taken up under homestead entry. In addition there is the enforcement of the fire-prevention requirements of the Board of Railway Commissioners of Canada on all railways within the province coming under their jurisdiction.

There are in this province eight forest reserves, covering an area of approximately 18,690 square miles, which have definitely been reserved for the production of timber and for their beneficial effect on stream-flow. It is the duty of the Forestry Branch to protect them from fire and insect and fungous pests and to administer them in such a way that the stands of timber may be improved and extended by proper silvicultural practice. Timber is sold in increasing quantities each year, but the larger part of such timber has been

fire-killed in previous years and the remainder is mature and over-mature green timber which by reason of its age should be harvested. Very little immature timber is being cut, and that only for silvicultural reasons, that is, for the benefit of the remaining stand. Although forest fires in past years have reduced the areas of mature timber to a very small percentage of the whole, there is reason to hope that present stands, both inside and outside reserves, will be sufficient to meet the demand until the large areas of immature timber at present on the reserves are ready for the market.

Fire Protection.—The past season must be regarded as being exceptional, both from the point of view of fire-danger and from the number and seriousness of the fires which occurred. There can be no doubt that it has been at least as bad as that experienced in 1910, and that year has always been considered as the worst since the Forestry Branch undertook fire protection in this province. In comparing the two years, however, it should be noted that the hazard was much greater in 1922 than 1910 because of the great increase, in the district affected, of settlement, railways, and backwoods travel, which constitute the chief sources of forest fires. Reports were also much more complete in the latter than in the former year.

Of the 1,758 forest fires which burned in Alberta during the season, only 170, or less than 10 per cent, attained a size of more than 10 acres or caused any expense or damage. The 1,588 smaller fires were those discovered and controlled in their incipient stage. That railway fires can be kept down by efficient patrol, engine inspection, and improved right-of-way conditions, is evidenced by the fact that 97 per cent of the 675 railway fires this season were less than 10 acres in extent and caused no damage to timber. The close co-operation which the railway companies have given made it possible to give the larger fires immediate attention so that few of them did any serious damage. The same does not apply to settlers' and campers' fires, however. These occur in remote and rather inaccessible places, are widely scattered, and are apt to attain to large size before fire-fighting operations can be started.

Seventeen persons were convicted during the year, under the provincial Fire Act, of causing forest fires. This has had a salutary effect and tends to build up the body of public opinion necessary for protecting the forest.

Forest Surveys.—The work of mapping the forest cover on Alberta reserves was continued last summer, and was completed on the Crowsnest and Bow River forests. A considerable amount of forest-cover mapping was also done on the Clearwater and Brazeau forests and the Lesser Slave forest reserve. The information already gathered shows that there is a comparatively small quantity of accessible merchantable timber remaining on these reserves. There are, however, large areas which will mature in from twenty-five to fifty years.

Seeding and Planting.—On the Cooking Lake and Cypress Hills forest reserves the seeding and planting work started four years ago has been continued. On these two reserves more than 86,000 spruce and pine seedlings were planted last year, and these, as well as previous plantations, are doing extremely well. This work is now past the experimental stage and it will soon be proceeded with on a much larger scale. Experiments started a year ago with direct seeding on partially prepared ground have been fairly successful, and it is proposed to continue this work until the most suitable method has been found. The seed-beds and nurseries on these two reserves have been doing well, and are now in a position to furnish in the vicinity of 150,000 seedlings a year.

Timber Sales and Permits.—Sales of timber under the authority of timber sales in this district amounted to 9,370,000 feet board measure and 685,000

lineal feet of mining timber. While the sales of saw material have increased by almost one million feet, the sales of mining timber have fallen off greatly owing to the long period of idleness in the mines caused by the strike during the summer of 1922. It is interesting to note that 2,950,000 feet board measure of the saw material and almost all of the mining material has been cut from fire-killed timber. The remainder of the year's cut was mature or over-mature spruce and pine timber.

Seventeen timber sales were in operation during the year, of which nine supplied small local mills; seven, mining timber for coal mines; and one, railway ties for the Canadian National Railways. The usual requirements of this branch with regard to close utilization and brush disposal have been very satisfactorily carried out in all cases.

Timber cutting under the authority of permits has brought in more revenue than formerly, but there were fewer permits issued than in the preceding year. A considerable quantity of fire-killed timber has been disposed of under permit at a reduced rate of dues, and it is satisfactory to note in this connection that most of the accessible fire-killed timber on the southern reserves has now been salvaged.

Aeroplane Patrol.—This branch has been greatly aided in fire-protection work by the air patrol maintained over the Crowsnest, Bow River, and Clearwater forests through the co-operation of the Air Board. Though the larger number of fires that have occurred in this area were in the more accessible parts of the reserves and were discovered almost at once by the ground patrol, in several instances aeroplane patrol was the detection medium, and in these cases very rapid control was made possible by the pilot's action. These fires would have attained large proportions but for quick action in fighting them.

Two patrols were carried out almost daily during the summer, one going south over the forest reserves and Waterton Lakes park to the International Boundary and one going north to the North Saskatchewan river. These outgoing patrols were made in the morning, the machines landing at temporary aerodromes at Pincher Creek and Eckville for a few hours and returning in the afternoon to the High River aerodrome. Special photographic work for mapping of rivers, timber, and roads was carried out several times with very good results.

It is impossible to overestimate the importance of the daily aeroplane patrol maintained in this district. This lies in the fact that the area covered each day includes all the less accessible portions of the reserves, thus enabling the ranger staff to concentrate on the most dangerous points and attend to other work necessary to the proper administration of the reserve. The effect of the patrol on campers and fishermen, of whom there are large numbers on the area covered, is excellent. Leaflets containing a warning to the public concerning the danger of forest fires have been dropped over fairs and sports held in different parts of the province.

Improvements.—During the year considerable progress was made in completing the improvement programme on the forest reserves. The structures erected included cabins, barns, granaries, one lookout station, besides smaller buildings.

The trail system has been greatly extended during the past season, and a large area has been opened up for easier travel and more efficient patrol. In all, some 230 miles of trail were built, mostly on the northern reserves. About 33 miles of telephone line were constructed, the larger part of which was in the Bow River forest. Emergency landing grounds for aeroplanes were constructed

on the Bow River and Crowsnest forests, and about six miles of fireguard along dangerous sections of railway line.

Grazing.—By the application of forest-reserve regulations, attempts have been made with encouraging results to introduce proper range management. The effect of this, as worked out with the co-operation of the grazing associations, has been to considerably conserve the forage in recent dry seasons. Permits issued during the summer season amounted to 586, approximately the same number as in 1921, covering 26,062 cattle, 8,106 horses, and 1,197 sheep. Winter-grazing permits were issued for 1,790 cattle and 2,600 horses. Grazing during the winter is not encouraged, but was deemed necessary last season owing to local and seasonal conditions. Although the stock, in a great many cases, was put on the range in the spring in poor flesh, they left the reserve in very good condition.

Increased use will likely be made of the northern forests, as many inquiries are being received as to grazing possibilities in these more remote areas. The northern districts will support many thousand head of stock, and from a forestry standpoint increased grazing will have a decided effect on the reduction of the fire-hazard produced by unconsumed forage.

Dominion Forests in British Columbia

D. Roy Cameron, District Forest Inspector

In British Columbia the area under the administration of the Dominion Forestry Branch is confined entirely to the "Railway Belt."

Fire Protection.—The Railway Belt was again subjected to a fire season of abnormal severity, probably the worst it ever experienced. For several seasons past very severe weather in the autumn has been followed by very light snowfall in the winter. These conditions resulted in rapid run-off in the spring, causing the forest floor to become extremely dry, with a resultant period of high hazard before the new vegetation appeared.

The number of fires fought and extinguished during the season reached a total of 589. This was an increase of 144 fires over the previous year, 167 over 1920, 181 over 1919 and 300 in excess of 1918. The protective organizations were very severely tried, but, despite the continued strain on both staff and equipment, every fire was successfully handled.

The proportion of "large fires" reached 55 per cent of the total. This designation includes any fire, no matter how small, where expense is incurred. The total area burned over was 109,474 acres, which included old burns, slash areas, and merchantable and young timber. The area of merchantable timber burned totalled 42,502 acres, the area of young growth, 54,735 acres; the remainder was old burn, slash, etc. The loss of merchantable timber also showed a considerable increase over last season, but was much lower than for 1920—47,447,000 feet board measure in 1922, against 13,956,000 feet board measure in 1921, and 148,000,000 feet board measure in 1920. The reason for the marked decrease in comparison with the figures for 1920 is that the protective organizations have been brought to a state of higher efficiency since that season.

It is a disconcerting fact that during the past season fires attributed to incendiary causes reached a total of 101 out of a grand total of 589 from all

causes. Railways, however, with a total of 204, contributed the largest number of fires for the season. The majority of these fires were small and many not over a quarter of an acre. The efficiency of fire protection along railways and of railway co-operation is shown by the fact that in all the large number of outbreaks only seven fires reached the proportions of ten acres and over.

Fires from causes unknown come third in number with a total of 82, or a percentage of 13·92. A large proportion of unknown fires occurred along railway rights of way. These totalled 53, and the unknown fires for other areas, 29. Settlers come fourth on the list with 66 fires, or 11·2 per cent, the highest since 1919. Fires from lightning were comparatively few, with only 55, or 9·33 per cent; these were chiefly confined to the higher mountainous regions of the Revelstoke district. The remainder of the fires were attributed to various causes, of which campers and smokers contributed the most.

Improvements.—To complete the work started during the season of 1921, two lookout stations were finished and put in operation. The reserve area is now completely under observation as far as primary lookouts are concerned, and any further work in this connection will be undertaken with the object of occupying positions which will overlook areas of extreme hazard and great forest values and make primary points still more effective. Maintenance work was carried out on trails and buildings at various reserve headquarters.

In the Salmon Arm fire-ranging district work was completed on the installation of a lookout on Mara mountain, elevation 7,201 feet above sea-level. This mountain is the highest point on the Hunter's range, and is reached by a new trail from Sicamous 15 miles in length.

Work was commenced on the installation of the first lookout in the Revelstoke district, which is located on the summit of Cartier mountain at an elevation of 8,623 feet above sea-level. It overlooks the entire lower Columbia River valley and adjacent country. With the ten miles of trail and the nine miles of telephone line completed the lookout will be installed ready for use early in the 1923 season.

In the Coast district the only improvement work undertaken was the reconstruction of part of the Chilliwack River telephone line. Other minor improvements were undertaken by the regular staff.

Silviculture.—During the season of 1922 a forest-cover and topographical map of the Larch Hills forest reserve was completed, and an exhaustive study was made of the various timber types. Many sample plots were laid out in various types and locations. A few plots were laid out on cut-over areas as a means of studying results from possible silvicultural systems of cutting timber.

Timber-sale business suffered considerably from the general economic conditions; but towards the close of the fiscal year many inquiries were received and a number of sales made. Timber-permit business was stationary.

The season of 1922 was a poor year for the collection of tree seed. From the surplus supply of 1921 a large amount of seed was shipped to the United States and smaller amounts were forwarded to various points in Europe, Australia, and New Zealand. Douglas fir seed seems to be in demand for American and European markets, as is also Sitka spruce to some extent. Shipments to the British Government were small owing to the curtailment of expenditure in the forestry activities in Great Britain.

Insects.—Operations were brought to a conclusion in what was known as the Spius and Prospect Creek insect control. The main stand of yellow pine in this area has now been gone over with the result that insect depredations have been reduced from epidemic conditions to an endemic state. About 550 trees, totalling some 250,000 feet board measure, were cut and destroyed.

Recreational Uses of Forest Reserves.—Both Trout lake and Paul lake again drew their quota of tourist and summer-resort patronage. The main attraction is, of course, the trout fishing and it is regretted that Trout lake shows a falling off in the number of fish landed. The catch in Paul lake increased. The main reason for this is that Paul lake has better spawning facilities and has a much better natural situation to withstand drought conditions. In co-operation with the Department of Marine and Fisheries a small hatchery was installed on the main stream flowing into Paul lake which it is expected will improve conditions. The demand for camping permits and summer resort lots was greater than could be met during the past season.

Forest Products Laboratories of Canada

W. Kynoch, Superintendent

The period now under review was marked, as was the year 1921-22 by a considerably augmented demand for the services of the laboratories on the part of the industries and the public. The investigative and demonstration work carried out in the semi-commercial paper-mill was more extensive than in any year since its installation, while the research and allied work of the laboratories generally was greater in variety and amount than in any previous year since their inception.

A brief review of the main lines of investigation is given below:—

Sulphite Pulp from Jack Pine.—Object: to develop a process of sulphite cooking which will yield a pulp of high quality free from resin. The attempt was first made to eliminate resin by the use of cymene as an extracting medium. The results were unsatisfactory and the problem was next approached by careful manipulation of the cooking conditions. A material improvement was effected in the quality of the pulp. Further laboratory work, however, remains to be done.

Freeness as a Control Test in Ground-wood Production.—Object: to determine the feasibility of applying the freeness test as a control in ground-wood production. The adaptability of this test to control work was investigated very thoroughly with promising results. The investigation included work under commercial conditions at a paper-mill and arrangements have been made to do similar work at three other mills with a view to substantiating results obtained.

Determination of the Burning Temperature of Exposed Chips in Sulphite Cooking.—Object: to determine the maximum temperature to which spruce and balsam fir chips may be raised, before being covered with acid, without injury to the chips. The critical temperature was determined and the work successfully completed.

Pulping Qualities of Fire-killed Wood.—Object: to determine the effect of fire-killing and superficial charring on the pulping qualities of spruce and balsam fir. The work was concluded and indicated that the fire-killed material, of which large quantities exist in certain districts, can be successfully used for pulp manufacture by the sulphite process.

Chemical Research on Cellulose.—Object: to add to the knowledge of the constitution of the cellulose molecule and of the chemistry of the cellulose complex of Canadian woods generally. Attention was given chiefly to the investi-

gation of the chloral condensation products of cellulose on which a good deal of research work was done. The subject is a complex one and the investigation will be continued.

Refining of Waste-paper Stock.—Object: to develop the best method of recovering good paper stock from the condemned paper currency withdrawn from circulation by the Department of Finance, and to ascertain if this method can be profitably practised on a commercial scale. Refining of the stock produced under normal cooking conditions was carried out and, by the use of a special washing equipment, it was found possible to recover an absolutely clean pulp. The work will be continued on a commercial scale.

Preparation of Reference Collection of Microscopic Slides of Woods.—Object: to build up a collection of authentic microscopic slides of the important commercial timbers of the world and of photomicrographs illustrative of anatomical features. The work was continued from the preceding year and all Canadian timbers of any commercial importance have now been dealt with, together with a number of the more widely used foreign timbers. The work will be continued.

Ply and Laminated Construction.—Object: to extend the field of application of the built-up type of construction. Attention was first given to sporting goods of which large quantities are imported into Canada. A laminated ski and a built-up tennis racquet were developed, service tests of the former carried out and those on the latter begun. The results were decidedly encouraging and commercial production on a small scale is expected.

Kiln-drying.—Object: to investigate the scientific principles involved in kiln-drying and to improve present kiln-drying practice. A field study of kiln-drying practice at Canadian wood-working factories was begun and will be continued.

Water Storage of Ground-wood Pulp.—Object: to determine whether the decay which frequently occurs in stored pulp can be prevented by storage in water. Ground-wood pulp secured from various pulp-mills has been stored in water for periods varying from two to three years. Paper made from these pulps was tested and compared with paper made from similar pulps newly manufactured and the results demonstrated that pulp can be stored under water for considerable periods without deterioration. Commercial trials are to be undertaken.

Decay of Timber in Buildings.—Object: to secure exact information as to the conditions which facilitate the action of various wood-destroying fungi on woods used for interior construction in mills, factories, etc., and to work out procedure and methods by means of which the decay can be prevented. The work has been in progress for some years, and expert technical knowledge on the prevention of decay has been secured as a result of decay studies in some hundreds of large buildings, a number of which were examined during the year. A special publication on the subject is being prepared.

Mechanical and Physical Properties of Woods Grown in Canada.—Object: to determine, by means of an exhaustive series of mechanical and physical tests, the strength functions of Canadian commercial timbers. Data have now been obtained for practically all Canadian timbers of any commercial value, but much work remains to be done before figures can be considered complete.

Glued Joints.—Object: to investigate the effectiveness of glues of the various classes for joint work. Some twenty-six commercial adhesives of the

hide and casein classes were investigated during the year, the work including both mechanical tests on joints and physical determinations on the adhesives. Ageing tests to secure information on the permanency of the adhesives were also undertaken.

Retention of Nails by Various Woods.—Object: to ascertain the relative ability of various woods to retain nails. Some six hundred tests were made with the specially designed equipment installed last year. Nails were of various types, such as cement-coated, barbed, etc. The work will be continued until all Canadian commercial woods have been covered.

Comparative Strength Values of Canadian Woods for Tie Purposes and Telegraph Top Pins.—Spike-retaining tests were made on cedar, spruce, and jack pine ties. The effect upon retention of driving into bored holes as compared with solid wood was carefully investigated, special attention being given to the effect of varying the diameter of the bored holes.

The strength of telegraph top pins of Canadian birch, beech, and maple was compared with that of top pins of imported woods. Results demonstrated that the Canadian hardwoods possessed ample strength for the purpose.

Creosote Treatment of Hard Maple for Railway Ties.—Object: to work out a satisfactory method of creosote treatment of this wood for tie purposes and to establish service tests in track. Maple proved to be a most erratic wood as regards penetrability with creosote oil, some material being very readily penetrable and some extremely refractory. Extensive work was done on treatment and a reasonably satisfactory method was finally worked out.

Creosote Treatment of Aspen for Railway Ties.—Object: to work out a satisfactory method of seasoning and of creosote treatment of this wood for tie purposes. The investigation is a preliminary one only, but it is believed that, by means of the incising process, the wood can be successfully and economically treated.

Preservative Treatment of Canadian Hardwoods for Top Pins and Pole Brackets.—A considerable amount of work was done both at the laboratories and at a plant manufacturing the accessories, and a satisfactory open-tank treatment was worked out.

Other investigations conducted included the determination of the sulphite pulping qualities of water-killed spruce; the development of a method of utilizing ground-wood screenings; the analysis of paper-fibres; the study of the relation of the rate of growth to the strength of several Canadian woods; the effect of red stain in jack pine; the chemistry and specifications of creosote oils, tars, and creosote-tar mixtures; and the treatment of woods to render them fire retardant.

Exhibits.—The collection and preparation of exhibits of forest products and articles manufactured or derived therefrom was continued and a number of additions made to the permanent exhibit at the laboratories. Exhibits were prepared also for the use of other Government offices and for display in public places.

There was a brisk demand for hand-specimens of Canadian woods. A new supply of sets was prepared, and a considerable number distributed in response to requests from educational institutions and others in Canada and abroad.

Library.—The reference library, which deals with the technology of woods, the products therefrom, and related matters, was materially extended and improved.

Information Furnished—The supplying of technical information in answer to inquiries relating to woods, their identification and to products manufactured or derived from woods is an increasingly important function of the laboratories. Well over five hundred such inquiries received attention during the year, a greater number than in any previous year.

Publicity.—A number of technical articles and news items were prepared during the year by members of the staff and published in Canadian and other periodicals or newspapers. The bulletin on the distillation of hardwoods, which was prepared last year, appeared in print and has been much in demand. A number of lectures and addresses were also given before scientific and technical societies.

TABLE I—STATEMENT OF REVENUE, FORESTRY BRANCH, FISCAL YEAR ENDED MARCH 31, 1923

Reserve	Timber sales	Timber fees and dues	Timber seizures	Grazing permits and trespass	Hay permits and seizures	Surface rentals	Special uses	Nursery stock	Unclassified	Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Turtle Mountain		290 30	54 78	2,608 20	571 00	77 60	18 00			3,619 88
Spruce Woods		102 00		629 00	151 75					882 75
Riding Mountain	246 00	6,790 57	277 15	536 35	843 50	491 40	669 00			9,853 97
Duck Mountain		2,708 66	30 06	372 36	353 75	384 90	26 00			3,875 73
Moose Mountain		549 55	16 00	573 60	356 75	131 00	585 25			2,212 15
Beaver Hills		210 65	26 50	315 67	148 25		9 00		132 25	842 32
Porcupine	1,382 60	1,274 47	66 75	699 83	464 50		280 30			4,168 45
Pasquia	18,707 86	3,380 26		31 36	181 25		76 00			22,376 73
Fort à la Corne	657 27	1,439 11	83 34				1 00			2,180 72
Pines	67 20	2,495 95		513 30	62 75		39 00			3,178 20
Nisbet		1,709 53	96 00	242 53	36 50		88 25			2,172 81
Big River		39 15		808 95	341 59		45 00			1,234 69
Steep Creek										
Sturgeon		186 04	12 25	261 54	82 25		28 60			570 68
Keppel		140 50	3 00	781 60	14 50		13 00			952 60
Manito		371 40		2,394 74	71 25		49 00			2,886 39
Dundurn		93 50		426 35	77 75		10 00			607 60
Seward				610 64	45 75		26 00			682 39
Elbow		40 50	5 00	982 55	48 00	83 32	47 00			1,206 37
Big Stick				6,218 76			55 00			6,273 76
Cypress Hills		1,992 78	95 54	3,884 07	3 50	34 95	17 00			6,027 84
Cooking Lake		19 50		1,510 10	199 25		2 00			1,730 85
Crowsnest	4,320 63	2,700 62	50 24	8,564 93	13 00	28 20	338 50			16,016 12
Bow River		3,546 46	40 00	6,068 13	55 75		65 15			9,775 49
Clearwater	5,054 97	208 63		424 72	12 00	560 32	198 00			6,458 64
Brazeau	5,658 17	2,136 56	705 59	56 14		830 34	236 00			9,622 80
Athabaska	5,001 19	2 00		75 76	31 00		148 00			5,257 95
Lesser Slave	15,352 15			21 64	174 75		11 00			15,559 54
British Columbia Reserves	515 00	120 60		15 50	123 00	225 25	147 00			1,146 35
Indian Head								1,314 30	730 41	2,044 71
Head Office	442 75									442 75
Totals	57,405 79	32,549 29	1,562 20	39,628 32	4,463 34	2,847 28	3,228 05	1,314 30	862 66	143,861 23

TABLE 2—STATEMENT OF TIMBER PERMITS ISSUED IN FOREST RESERVES, FISCAL YEAR ENDED MARCH 31, 1923

Reserve	No. of permits		Kinds and quantity of timber authorized to be cut									Dues and fees
	Free	Paid	Poles or rails	Fence-posts	Saw-timber	Railway ties	Mine timber	Lath	Building logs	Fuel green	Fuel dry	
					Ft.B.M.		Lin. Ft.	Pieces	Lin. Ft.	Cords	Cords	$ cts.
Turtle Mountain	2	42	.....	2,200	24,200	.....	.....	.....	960	.....	321	290 30
Spruce Woods	.....	24	.....	.....	.....	.....	.....	.....	.....	.....	117	102 00
Riding Mountain	120	624	.....	13,377	1,900,363	.....	.....	.....	40,057	521	9,221	6,790 57
Duck Mountain	50	220	3,000	5,067	2,699,323	.....	.....	.....	16,961	221	894	2,708 66
Moose Mountain	.....	114	.....	4,775	.....	.....	.....	.....	1,580	273	393	549 55
Beaver Hills	5	35	.....	.....	.....	.....	.....	.....	10,180	92	87	210 65
Porcupine	35	69	800	24,563	1,460,614	.....	.....	.....	13,010	10	864	1,274 47
Pasquia	10	118	.....	4,700	101,700	90	.....	434,000	6,044	312	8,265	3,380 26
Fort à la Corne	45	185	.....	13,088	142,480	70	.....	.....	27,267	27	5,431	1,439 11
Pines	5	135	3,050	17,764	.....	2,800	.....	.....	10,496	100	7,159	2,495 95
Nisbet	16	227	6,330	9,790	11,000	.....	.....	.....	6,180	.....	8,304	1,709 53
Big River	6	4	.....	200	.....	.....	.....	.....	9,455	.....	74	39 15
Steep Creek	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sturgeon	9	13	600	1,800	103,150	.....	.....	.....	6,818	.....	.....	186 04
Keppel	4	42	270	400	.....	.....	.....	.....	5,800	52	97	140 50
Manito	18	103	1,550	5,685	.....	.....	.....	.....	6,780	256	211	371 40
Dundurn	.....	22	.....	.....	.....	.....	.....	.....	.....	133	.....	93 50
Elbow	.....	26	.....	.....	.....	.....	.....	.....	.....	2	67	40 50
Cypress Hills	86	557	42,097	48,955	202,300	.....	.....	.....	49,191	1,145	2,184	1,992 78
Cooking Lake	2	5	.....	7,000	.....	.....	.....	.....	300	.....	47	19 50
Crowsnest	108	223	17,179	7,966	921,000	.....	300	.....	265,085	3	2,579	2,700 62
Bow River	13	99	17,318	5,525	15,500	.....	.....	.....	290,176	.....	4,774	3,546 46
Clearwater	42	26	.....	.....	1,011	1,369	.....	.....	9,506	.....	1,058	208,63
Brazeau	9	24	.....	.....	150,000	.....	1,533,547	.....	69,647	.....	269	2,136 56
Athabaska	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	2 00
British Columbia Reserves	7	14	1,000	660	.....	2,500	.....	.....	11,100	53	94	120 60
Totals	594	2,951	93,194	173,515	7,732,641	6,829	1,533,847	434,000	856,593	3,200	52,560	32,549 29

TABLE 3—STATEMENT OF GRAZING PERMITS ISSUED IN FOREST RESERVES, FISCAL YEAR ENDED MARCH 31, 1923

Reserve	No. of permits	Number of Stock				Dues and fees collected
		Cattle	Horses	Sheep	Total	
						$ cts.
Turtle Mountain	98	1,406	195	1	1,602	2,608 20
Spruce Woods	20	267	59	.....	326	629 00
Riding Mountain	59	973	82	.....	1,055	469 15
Duck Mountain	12	529	.....	.....	529	273 06
Moose Mountain	40	878	87	.....	965	560 60
Beaver Hills	38	509	82	.....	591	315 67
Porcupine	43	1,177	69	.....	1,246	642 03
Pasquia	6	47	10	.....	57	31 36
Fort à la Corne	.....	.....	.....	.....	.....	.....
Pines	29	1,199	76	.....	1,275	513 30
Nisbet	18	544	11	.....	555	242 53
Big River	5	530	26	.....	556	808 95
Steep Creek	.....	.....	.....	.....	.....	.....
Sturgeon	15	456	56	.....	512	261 54
Keppel	31	1,134	314	.....	1,448	675 60
Manito	111	3,663	773	25	4,461	2,220 42
Dundurn	23	718	181	.....	899	426 35
Seward	24	350	292	.....	642	610 64
Elbow	108	1,464	605	500	2,569	982 55
Big Stick	253	9,169	2,336	7,700	19,205	6,070 76
Cypress Hills	148	4,961	2,215	.....	7,176	3,842 57
Cooking Lake	114	1,245	1,219	.....	2,464	1,427 60
Crowsnest	263	13,391	3,749	.....	17,140	8,564 93
Bow River	126	8,608	3,368	.....	11,976	6,068 13
Clearwater	49	305	242	.....	547	424 72
Brazeau	12	7	89	.....	96	56 14
Athabaska	7	6	75	.....	81	75 76
Lesser Slave	1	38	4	.....	42	21 64
British Columbia Reserves	5	50	.....	.....	50	15 50
Totals	1,658	53,624	16,215	8,226	78,065	38,838 70

TABLE 4—STATEMENT OF TIMBER CUT ON FOREST RESERVES UNDER AUTHORITY OF TIMBER SALES, FISCAL YEAR ENDED MARCH 31, 1923

Reserve	Previous sales still operating	Sales made current year	Sawtimber	Mine Timber				Railway ties	Telephone poles	Dues collected
				Props	Props	Lagging	Lagging			
			Ft. B.M.	Ft. B.M.	Lin. Ft.	Cords	Ft.B.M.	Ft.B.M.	Lin. Ft.	$ cts.
Riding Mountain	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Pasquia	4	3	7,853,384	.....	.....	477	.....	.....	.....	28,480 43
Porcupine	3	.....	1,066,849	.....	.....	.....	.....	.....	.....	4,333 64
Fort à la Corne	.....	3	43,511	.....	.....	.....	.....	.....	.....	65 27
Pines	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Athabaska	1	.....	1,516,458	.....	.....	.....	.....	.....	.....	4,928 49
Crowsnest	1	2	3,086,239	.....	.....	.....	.....	.....	.....	4,629 35
Clearwater	2	2	172,019	1,473,428	.....	318	149,162	.....	.....	5,176 49
Brazeau	2	2	2,495,500	193,866	.....	.....	261,726	.....	.....	6,314 11
Lesser Slave	1	.....	4,698,278	.....	.....	.....	.....	.....	.....	12,423 68
British Columbia Reserves	5	2	.....	.....	.....	.....	.....	.....	2,790	22 55
Totals	19	16	20,932,238	1,667,394	.....	795	410,888	.....	2,790	66,374 01

TABLE 5—STATEMENT SHOWING QUANTITY OF TIMBER SOLD AND REVENUE DUE FISCAL YEAR ENDED MARCH 31, 1923, ON LICENSED TIMBER BERTHS WITHIN DOMINION FOREST RESERVES

MANITOBA

Reserve	Timber berths	Area in reserve	Quantity sold			Revenue		
			Lumber	Lath	Other products*	Dues payable	Rent payable	Total payable
	No.	Sq. Mls.	Ft.B.M.	No.		$ cts.	$ cts.	$ cts
Riding Mountain....	2	22·75	.....	.....	.....	.....	227 50	227 50
Duck Mountain.....	11	107·59	.....	.....	.....	.....	1,075 90	1,075 90
Totals.....	**13**	**130·34**	.....	.....	.....	.....	**1,303·40**	**1,303 40**

SASKATCHEWAN

Porcupine and Pasquia.....	41	850·22	48,777,908	17,339,788	2,991,093	45,676 45	8,502 20	54,178 65
Nisbet and Pines....	4	80·69	185,537	.....	5,445	1,559 36	173 15	1,732 51
Totals.....	**45**	**930·91**	**48,963,445**	**17,339,788**	.....	**47,235 81**	**8,675 35**	**55,911 16**

ALBERTA

Crowsnest.....	11	234·92	8,741,308	2,530,200	757,543	12,601 98	2,349 20	14,951 18
Bow River.....	13	275·99	5,724,024	.....	1,255	4,165 86	2,759 90	6,925 76
Clearwater.....	4	371 52	160,760	.....	139,337	8,310 98	3,715 20	12,026 18
Brazeau.....	11	163 85	.....	.....	77,797	5,597 62	1,638 50	7,236 12
Totals.....	**39**	**1,046·28**	**14,626,092**	.....	**975,932**	**30,676 44**	**10,462 80**	**41,139 24**

BRITISH COLUMBIA

Totals.....	**11**	**128·32**	**6,788,694**	.....	**189**	**6,818 97**	**1,283 20**	**8,102 17**

ALL DOMINION FOREST RESERVES

Grand Totals.....	**108**	**2,235·85**	**70,378,231**	.....	**3,972,659**	**84,731 22**	**21,724 75**	**106,455 97**

* The figures in this column indicate the number of units on which dues were calculated. They include 8,757 cords of fuel-wood, 5,260 telephone poles, 150 cords of shingles, 334 cords of slabs, 754,306 mine-props, 239,226 railway ties, 15,267 fence-posts, 45 cords of pulpwood, 1,064 rails.

PART IV

RECLAMATION

REPORT OF THE DIRECTOR OF THE RECLAMATION SERVICE, E. F. DRAKE

IRRIGATION

The series of dry years, from which the semi-arid districts of Alberta and Saskatchewan have recently suffered, has been responsible for widespread requests for surveys to ascertain what areas can be irrigated from the available water supply, and the staff of the Reclamation Service, whose duty it is to make these investigations and surveys, has had difficulty in keeping up with the demand.

CLIMATIC AND CROP CONDITIONS IN SOUTHERN ALBERTA IN 1922

The month of November, 1921, was unusually mild and there was practically no snowfall. Stock on the range was therefore in excellent shape to withstand the cold weather which came in December when, because of heavy snowfalls, considerable feeding was necessary. Mild weather prevailed throughout January, February, and part of March, and all stock came through the winter in good condition. April was cold and wet, and the land was too moist for ploughing. May, however, was warm, and good progress was made in agricultural operations. During June the temperature was about normal and the precipitation was the highest since 1916. Rain fell at intervals of a few days all through the month, and the amount and distribution of this moisture gave the crops a splendid start. July, August, and September were warm and dry with some hot winds, but the moisture remaining in the ground from the June rains carried the crops through to a fairly successful harvest.

The total precipitation in 1922 was below the average, but the occurrence of heavy rains at the proper time—April, May, and June—and the absence of drying southwest winds, were conditions directly responsible for the better crop yields; this is a striking instance of distribution of rainfall being more important than amount.

IRRIGATED CROPS

Because of the abundant rainfall in the early part of the season, irrigation was not so urgently needed as in the last few years; notwithstanding this, a larger number of acres than ever before were irrigated on the large projects, by about the same number of water users. There has always been a tendency to delay using water in the hope that there would be sufficient rainfall, and crops on irrigable land have frequently suffered on this account. This year's record indicates that the farmers are depending less upon the weather and more on their own efforts. The returns from the different projects under operation show that irrigated crops were good and the production and value in every case exceeded that of 1921, although prices were low.

PROGRESS IN IRRIGATION DEVELOPMENT

Corporation Projects.—All projects have been successfully operated during the year. As usual some mishaps and unavoidable accidents have occurred, but repairs were quickly effected, and no serious delays in the delivery of water have been reported. Large sums of money have been spent during the year on the repair, betterment, and renewal of canal systems. New telephone lines and fences have been built, hundreds of miles of canals and distributaries cleaned out, and all canal systems are in excellent shape for the season of 1923.

On account of the stringent financial conditions existing all over the world, settlement in those projects, which still have land to sell, remains slow. The majority of settlers in these tracts have come from outside points, but this year a tendency was noticeable among the farmers in Alberta and Saskatchewan to leave their "dry" farms and take up irrigated lands. Many, who have tried irrigated farming for a few years, find that they took up too much land and are now reducing their holdings in order to farm the remainder more intensively.

Irrigation Districts.—Steady progress has been made in this form of development, under which all co-operative irrigation systems will probably be constructed in the future. The Irrigation Districts Act, enacted by the province of Alberta in 1915 and amended from time to time, has functioned efficiently, and the creation of an Irrigation Council to exercise supervision over the organization, construction, and general welfare of irrigation districts, has been a great factor in the smooth working of the Act.

Eight districts, containing a total of 212,000 irrigable acres, have been organized under the Act. One of these, the Taber district, has been in operation for two years; two, the Lethbridge Northern and United districts, have just completed constuction; two, the Little Bow and New West districts, are under construction; and at least two more, the Magrath and Mountain View districts, appear likely to complete organization and proceed with construction in 1923.

As mentioned in last year's report, it is evident to close students of agricultural problems, that many of the individual holdings in irrigation districts are too large to be properly cultivated under irrigation, largely because of the high cost of the necessary work and the inexperience of many of the settlers. In order to achieve success in irrigation farming, especially when the cost of the works is high, every acre must be carefully cultivated and made to yield good returns. Generally speaking, the average farm unit should contain from 80 to 160 acres of irrigable land, while the holdings usual for "dry farming" in this country are very much larger. The Colonization Branch of the Irrigation Council, organized by the province of Alberta in 1921, has been busily engaged in remedying this difficulty. It has listed the excess land holdings to be disposed of by farmers and has carried on an active colonization campaign for the purpose of selling these lands and placing additional settlers on them. Efforts in this direction have so far been largely confined to the newly completed Lethbridge Northern irrigation district. A few sales have already been effected, and if the enquiries received and the interest shown are any guide, quite a number of settlers should be placed in this district during 1923.

In Saskatchewan many small irrigation schemes are being operated, but no large co-operative projects have yet been developed. An Irrigation Districts Act, very similar to that of Alberta, was passed in 1920, but has not yet been used. One project has, however, been surveyed and an irrigation district is in process of organization. The Act will therefore probably be brought into practical operation at an early date.

Small Irrigation Projects.—The construction of small individual projects continues to interest many farmers whose lands can be irrigated by diversion from nearby streams, and the waters of some of these streams have been practically all appropriated. Some of these small projects have been operated successfully for many years and there are at present 496 licensed or authorized schemes. These, with other schemes not yet authorized and a large number of new applications recorded in 1922, make a total of 724 small irrigation projects under the supervision of the Reclamation Service.

IRRIGATION IN 1922

During 1922, 241,616 acres were irrigated by 2,937 water users in the five large projects now in operation, a satisfactory feature of the season's work being the improvement in the methods of irrigating with consequent increased crop returns. The percentage of wheat to other crops is still far too high, although it is being reduced year by year as diversified crops gain in favour. Wheat crops exhaust the fertility of the soil sooner than most other crops, and do not give by any means the greatest return per acre. For instance in a certain district wheat gave a return of slightly over $20 per acre, whereas in the same district alfalfa yielded almost $50 per acre on the average.

The acreage under irrigation will be largely increased in 1923, as two districts, the Lethbridge Northern of 105,000 acres, and the United of 26,000 acres, have just been completed. These districts are well settled and their development should be rapid.

The preliminary surveys for practically all projects, large or small, were made by the Reclamation Service in pursuance of the policy of the Dominion Government that the surface water it controls shall be so allocated as to serve the public to the best advantage. In addition to the seven constructed schemes, surveys have been completed for fifteen other projects which have been found feasible and are now in different stages of organization. Surveys are now being carried on in several new projects.

DUTIES OF THE IRRIGATION DIVISION

It is the duty of the Irrigation Division of the Reclamation Service to administer the surface water supply (with the exception of water powers) in the Prairie Provinces. This is done under the provisions of the Irrigation Act and includes the use of water for domestic, municipal, industrial, irrigation, and other purposes. To administer the water supply so that the greatest benefit may result to the public is a heavy responsibility and a large staff of engineers and helpers is needed to deal with the many different phases of the work. Because of the ever-increasing demands for irrigation the work has been growing heavier each year. The work to be done comprises:—

1 Inspection and surveys of small schemes, new or in operation.
2 Supervision of large projects under construction or in operation.
3 Duty of water experiments and climatic studies.
4 Soil surveys and experiments and seepage investigations.
5 Surveys of large projects consisting of development of reservoir sites, reconnaissance and preliminary surveys, followed by plane-table and final surveys when projects are found to be feasible.

These surveys and investigations of various kinds were carried on at a number of different points through southern and central Alberta, and south-western Saskatchewan in 1922. Good progress was made during the season, and afterwards in the office the engineers and draughtsmen were employed in

preparing plans of work done in the field and making the necessary designs, studies, and cost estimates of the different projects.

The following schedule shows the development of irrigation to the end of 1922:—

IRRIGATION DEVELOPMENT IN WESTERN CANADA

Project	Source of supply	Area of tract	Irrigable area	1922 Operations		Capital cost	Mileage of canals
				No. of water users	Area irrigated		
		acres	acres		acres		
Constructed and in operation—							
C.P.R. Western Sec	Bow river	1,145,336	218,980	967	49,752	$5,353,440	1,469
C.P.R. Eastern Sec	Bow river	1,212,074	400,000	893	93,375	11,132,169	2,500
Alberta Ry. & Irr. Co	St. Mary river	434,509	130,000	865	75,558	1,900,000	225
Taber Irr. district	St. Mary river	30,365	17,244	128	13,122	272,330	73
Under construction, partly in operation—							
Canada Land & Irr. Co	Bow river	452,482	202,640	64	9,809	6,541,207	377
Constructed, operation to commence 1923—							
Lethbridge Northern district	Oldman river	231,220	105,000	.....	.....	5,400,000	
United Irr. district	Belly river	64,600	26,000	.....	.....	524,000	
Little Bow district	Highwood river	11,490	3,278	.....	.....	36,000	
Found by surveys to be feasible (district organized)—						Estimated cost	
New West district	Bow river	13,015	4,501	.....	.....	160,000	
Medicine Hat E. Irr. district	Ross creek	4,800	2,900	.....	.....	36,000	
Macleod Irr. district	Waterton river	108,603	49,649	.....	.....	2,060,000	
Found by surveys to be feasible (not organized)—							
Eyremore district	Bow river	18,776	4,100	.....	.....	250,000	
River Bow Irr. district	Bow river	16,688	5,792	.....	.....	314,357	
Lethbridge Southeastern district	Waterton, Belly, St. Mary, and Milk rivers	1,182,781	414,400	.....	.....	16,622,000	
Robsart-Vidora project	Frenchman riv.	14,000	10,000	.....	.....	343,841	
Retlaw-Lomond Irr. district	Bow and Oldman rivers	418,630	115,000	.....	.....	2,500,000	
Champion Irr. district	Highwood river	184,860	50,000	.....	.....	2,071,000	
Granum Irr. district	Willow creek	.....	4,500	.....	.....	260,000	
Beaver Creek project	Beaver creek	.....	9,000	.....	.....	450,000	
Preliminary surveys—							
N. Saskatchewan Irr. project	N. Sask., Clearwater, Raven and Red Deer rivers	3,538,760	1,400,000	.....	.....	.....	
493 small private schemes	.....	.....	114,089	.....	.....	.....	

WATERWAYS TREATY

Provision is made in Article 6 of the Waterways Treaty between Great Britain and the United States for the division between Canada and the United States of the waters of St. Mary and Milk rivers and their tributaries, in the state of Montana, and in the provinces of Alberta and Saskatchewan. This is done in such a manner as to recognize to some extent the prior appropriations from these streams in the respective countries, and to ensure approximately equal division of the waters, it being stipulated, however, that more water may be taken by one country from one stream and less from another without affecting the substantially equal division of the total flow.

The various details affecting the proper interpretation of Article 6 have been considered at a number of meetings of the International Joint Commission, held between 1915 and 1921. In the meantime and pending the issuance of a definite order it was necessary to provide for some method of dividing the waters of these streams, so that irrigation development might proceed without serious hindrance. On May 24, 1918, therefore, the commission issued an interim order describing in considerable detail the methods to be followed in measuring and apportioning the waters of these streams and their tributaries during the irrigation season of that year. This order was found to be satisfactory as a temporary expedient and was renewed in 1919, 1920, and 1921.

Under these interim orders the Reclamation officers of Canada and the United States have made measurements of stream flow and apportioned the waters as was found necessary from time to time. No serious difficulties were encountered, but it soon became apparent that no large irrigation development would be possible in either country until the proportion of stream flow to be permanently assigned to each was definitely fixed. This was particularly the case in southern Alberta where surveys carried on by the Canadian Reclamation Service had demonstrated the feasibility of irrigating a considerable additional area of land by the utilization of all the available stream flow and the conservation of flood flow.

In September, 1921, meetings were held by the International Joint Commission at Chinook, Montana, and Lethbridge, Alberta, primarily for the purpose of giving locally interested persons an opportunity of presenting their views, and following these hearings the commission at its next regular meeting at Ottawa on October 4, 1921, gave an order which for all practical purposes may be regarded as finally settling the division of flow of these streams between the United States and Canada.

The measurement and apportionment of stream flow was carried out during 1922 under the provisions of the order of October 4, just referred to. As in previous years, an engineer of the Reclamation Service acted in co-operation with an engineer of the United States Reclamation Service in this work and in the collection of data in connection therewith.

DRAINAGE

The year 1922-23 was the fourth of the operations of the Drainage Division of the Reclamation Service, investigating and planning drainage projects under the provisions of the Drainage Regulations.

The Regulations of the Dominion Government and the corresponding Reclamation Acts of the provinces of Alberta and Saskatchewan provide for the reclamation and disposition of wet or submerged Crown lands in these provinces briefly as follows:—

1 Sale of Dominion lands in a drainage project not exceeding 1,280 acres to individuals at a minimum price of $1 per acre under conditions of drainage.
2 Sale to the provinces of wet Dominion lands at a minimum price of $1 per acre to facilitate the construction, improvement and maintenance of public highways.
3 Sale to the provinces at a minimum price of $1 per acre of Dominion lands in drainage districts organized under the provisions of the Drainage Acts of the provinces.
4 Construction of drainage works by the Dominion Government where not less than one-half the area affected is vacant Dominion land.

During the season seventy-seven private drainage schemes under Part I of the Regulations were inspected and investigated in Alberta and Saskatchewan; under Part III, twelve drainage projects initiated by the provinces of Alberta and Saskatchewan were inspected; under Part IV, the investigation of one large scheme—the Athabaska project in Alberta, involving about 140 square miles of reclaimable land—was completed, while considerable progress was made towards completing the field investigations of the extensive Carrot River Triangle drainage project in Saskatchewan and Manitoba, which comprises an area aggregating about 1,400 square miles.

In the small projects carried out under the provisions of Part I of the Regulations the results have been very satisfactory both from the applicants'

point of view and from that of the general good of the country. Every small drainage project successfully operated is a distinct benefit to the district in which it is situated, even though carried out at the entire expense of the applicant. Individual farms become more profitable, and by making more land fit for homesteading, drainage brings about more compact settlement and improved conditions of living.

In the middle parts of the provinces where wet conditions have not been sufficient to seriously retard settlement, but still sufficient to cause considerable inconvenience to a number of farmers and to interfere with the traffic of the district, drainage districts have been formed under the jurisdiction of the provinces and debentures issued to raise the necessary funds for construction expenses. Other drainage districts are being petitioned for in many well settled areas.

Under Part III of the Regulations, twelve drainage districts have been formed in Alberta and twenty-two in Saskatchewan. In the north, however, scattered settlement precludes this method of operating, as the bulk of the land in any possible drainage district is still owned by the Dominion Government.

Under the provisions of Part IV of the Regulations, which covers drainage projects initiated by the Dominion Government, thirteen of the thirty-four large projects investigated have been reported feasible and recommended for construction. At present on account of the necessity for economy it has not been considered expedient for the Government to undertake the construction of any of these with the exception of the Waterhen Lake project. Estimates and plans and other necessary data are, however, on file in readiness for the commencement of construction at any time it is thought advisable.

The investigation of the largest project of all, the Carrot River Triangle drainage project, situated between the Saskatchewan and Carrot rivers, and comprising about 1,400 square miles of marsh lands, sloughs and lakes, presented many difficulties on account of the inaccessibility of the tract during the open season. On this account all the available parties of the Drainage Division were put on the work in the late fall in order to rush the surveys as soon as the "freeze-up" made it possible to penetrate the interior. This area promises to be exceedingly rich agricultural land if and when reclaimed. The large shallow lakes, bare of reeds, rushes and other vegetation, will be available for seeding to cultivated grasses as soon as unwatered, while the luxuriant and extensive grass lands that are now generally too wet to permit cutting will gradually be converted from hay lands into arable farm lands. Another field season will see the completion of all the necessary surveys and investigations.

The Waterhen Lake drainage project comprises about 13,900 acres of benefited land. Construction was commenced in the spring of 1921. In the fall of 1922 all the main canals and two of the bridges were completed. There remain to be constructed five bridges and the small laterals and culverts, which it is expected will be completed in the fall of 1923. The water of the lake was drained off by the end of September, 1922, and the bed is now quickly drying up. The parts bare of vegetation will be seeded immediately to timothy and the other parts brought under cultivation as soon as conditions are favourable..

IRRIGATION

V. MEEK, A.M.E.I.C., ACTING COMMISSIONER OF IRRIGATION AND CHIEF ENGINEER

This is a summary of the work accomplished during the year ended March 31, 1923. A more complete account will be found in the separate annual report of the Reclamation Service, and in the original reports of the several engineers filed in the offices of the Reclamation Service at Calgary and Ottawa.

WATER ADMINISTRATION

The primary purpose of this work is to ensure that water rights are not granted in excess of the quantities which may be expected to be available under normal conditions of supply, and to define water rights in such a manner that future conflicting claims may be adjusted with the minimum of friction.

Proper administration requires a knowledge of the flow of streams at all times, and under all conditions. To obtain this information much detailed field work and office study, and the keeping of an elaborate set of records is necessary. The measurement of streams, surveys of drainage basins and their storage possibilities, investigation of soil conditions, studies of precipitation, temperature and winds, and experimental work in duty of water are all essential, and much of this work must extend over a number of years before a reliable estimate of conditions of flow can be obtained.

From the mass of data accumulated, a start has recently been made in the preparation of maps and charts indicating the different areas in which the aforesaid conditions are similar. Definite progress has been made during the year and will be continued. These records will, as they become more and more nearly complete, greatly simplify and expedite the work necessary to determine the run-off in drainage basins and the probable flow in streams.

Conditions are now becoming critical on some streams on which the low-water flow has been fully appropriated, and heavy demands made on the flow at high and flood stages. The construction of reservoirs to store the surplus or flood flow, and make it available for use at the proper time for irrigation, becomes necessary in these cases, and very careful study is required before any further water rights can be granted.

INSPECTION WORK

There was a falling off in the number of applications recorded this year, the total number being 151 as against 232 for the previous year. This, however, did not reduce the work of the five inspecting engineers to any appreciable extent, there being 466 inspections made by the staff engaged on this work in 1921 and 455 in 1922. A number of inspections were also made by other engineers of the branch when their regular duties permitted. The end of the 1922 field season found the inspection work in all districts in very satisfactory condition.

Conditions of water supply are critical in certain portions of the three southernmost inspection districts, viz., the East and West Cypress Hills districts and the Cardston district, and to the engineers in charge of these districts there have been issued watermaster's warrants for their respective districts. As watermasters they are empowered to adopt measures for regulating the diversion of water in settlement of disputes or complaints which occasionally arise.

Domestic Water Supplies.—The number of applications received for permis-

sion to divert water for domestic purposes was about the same as last year. The type of application most frequently received asks for permission to impound the spring run-off from a coulee by means of an earth embankment with a natural or artificial spillway. Many dams of this nature have been illegally constructed through the provinces of Alberta and Saskatchewan, but it is not the policy of the department to take the initiative in preventing these small illegal diversions, providing, of course, no other interests are adversely affected.

During the year many other applications were received asking for water for industrial, municipal, and other purposes. In every case the usual inspection and report were made. The collection of municipal water supply data which was commenced by this branch in 1914, has been continued throughout the past year and the department is indebted to the various towns and cities for the co-operation which has made this work possible. Since January, 1922, nine special inspections for ice-cutting permits have been made outside of the field season. Most applications for ice permits are filed after the close of the field season and early action being necessary, they entail special trips.

The Cypress Hills Inspection District.—This district is divided into two parts, east and west, each being in charge of an engineer. The crops throughout the eastern district were fair, some sections being favoured with large yields while no portion suffered a total failure. A gradual improvement and a more general interest in the methods of irrigating is noticeable. In the western portion of the district the increased demand for irrigation has made necessary very careful inspection of the water available, and an office is maintained in Medicine Hat for the use of the engineer in charge of the district.

Cardston District.—General conditions during the past season were better than in 1921, as the drought was not so severe. Copious rains during the latter part of June and early July saved the later grain crops from failure. Most of the irrigation schemes in this district, which is largely a stock-raising area, are operated for the growing of fodder crops. Good progress has been made in the construction of works on a number of newly authorized projects and good results were obtained where water was applied early in the season.

Special Inspections, Alberta.—An engineer was again assigned to this district, which roughly comprises all that portion of the province of Alberta lying north of township 16. The work includes the inspection of all applications for water rights made under the provisions of the Irrigation Act, and any applications under the Alkali Mining Regulations which contemplate the use of water. Unlike the regular irrigation inspection districts, inspection work is carried on practically throughout the entire year, as a number of applications for ice-cutting permits usually receive attention during the winter months. The number of inspections for irrigation purposes has considerably increased during the past few seasons, diversions by pumping predominating.

Special Inspections, Saskatchewan.—This district, which is in charge of an engineer, comprises roughly the whole of the province of Saskatchewan lying north of township 17. The inspection work is very widely scattered, most of it consisting of domestic and industrial schemes. For the most part the district lies outside of the semi-arid region, and from an agricultural standpoint does not suffer greatly from lack of moisture. For this reason there are comparatively few applications made for irrigation water rights. More attention, however, is being paid to irrigation by settlers in the district and numerous inquiries were made during the past year regarding irrigation. A number of applications submitted under the Alkali Mining Regulations were inspected.

THE CANADIAN PACIFIC RAILWAY COMPANY'S IRRIGATION PROJECTS

Western Section.—The gross area of this project is approximately 1,000,000 acres of which 218,980 acres are classified as irrigable. The project has now been in operation for some fifteen years, water having been first diverted in 1907 over a small area in the Gleichen district. The whole section has been greatly improved during the past year by the grading and repairing of roads and the construction of about 100 miles of additional telephone lines by the Provincial Government. The area under irrigation during the past season was 49,752 acres, the principal irrigated crop being wheat, which represented over 50 per cent of the total crop area.

Eastern Section.—During the past year large sums of money have been expended in this section on repairs, betterments and renewals. Of the timber structures some 240 have been repaired and 700 renewed. Sixty-four new small structures have been installed in the system and sixteen large concrete structures rebuilt and re-conditioned. Some 347 miles of distributary ditches from 2·5 to 10 feet in bed width have been cleared of silt and weed growth during the past summer by means of dragline and special excavating machines.

The area actually under irrigation during the season was 93,375 acres, as compared with 88,299 in 1921. The value of the crops from the irrigated lands has been estimated at over $1,400,000 as compared with last year's estimate of $1,097,000.

Lethbridge Section.—The gross irrigable area covered by water agreements in this project is 113,758 acres. Practically all the land has been sold and approximately 80 per cent of the area lying below the canals is under cultivation. The total area irrigated during the season was 75,558 acres as compared with 56,450 in 1921. The average value of the crops raised on the irrigated lands in this district was $23.07 per acre, an increase over the 1921 average yields of $1.32 per acre. The total value of the various crops grown on the irrigated lands during the season has been estimated at $1,339,000 and at $230,000 from the non-irrigated lands. There were 865 actual users of water during the season.

Very little new construction has been carried out during the year,—four new bridges were built on the main canal, and on the distributary ditches a number of new timber checks and delivery gates were installed. One specially designed excavator, one dragline excavator, and one dredge have been at work during the season enlarging ditches, removing silt and weeds, raising banks, and generally improving the canal system.

TABER IRRIGATION DISTRICT

This district had a very successful year, not only from the point of view of crop returns, but also in connection with the operation and management of the system. There are 17,244 irrigable acres in the system, and of this area 13,122 acres, representing 76 per cent, were actually irrigated during the season. The operation of the system has been very satisfactorily carried out by the manager with the assistance of two ditch riders.

CANADA LAND AND IRRIGATION COMPANY

This has been a very successful year for the farmers under this project, splendid crops having been harvested. Weather conditions were particularly favourable and the frost-free period extended for 136 days—from May 23 to October 6, giving the farmers an excellent opportunity for growing and harvesting potatoes and garden produce. The fact that during the past few years sweet corn, cucumbers, squashes, cantaloupes, watermelons, and tomatoes have

been grown in considerable quantities and matured successfully on this project is evidence of the favourable climatic conditions during the growing season. The area actually irrigated during the season was 9,809 acres, of which 5,267 were seeded to wheat and yielded 27·9 bushels per acre. The second largest acreage was alfalfa hay with 846·4 acres yielding 2,835 tons or an average of 3·3 tons per acre. From some 380 acres of potatoes an average yield of 190·7 bushels per acre was gained. The total estimated value of the crops grown on the 8,751·7 acres from which crops were harvested was $242,940.27 which represents an average yield per acre of $27.73.

During 1922 the company constructed ten miles of drainage ditches in the western district for the disposal of surplus surface irrigation water. Along the Little Bow section of the main canal 69,000 cubic yards of material were moved in connection with the improvement of the canal, much of this being to reduce the pressure at certain critical points where sliding had occurred.

NEW WEST IRRIGATION DISTRICT

Surveys and estimates of cost for this district were completed during the 1921-22 season and received the Minister's approval on January 31, 1922. As now organized the district comprises 4,518.6 irrigable acres, the lands lying almost wholly in the west half of township 14, range 16, west of the 4th meridian. Under an order dated July 21, 1922, the district was officially formed by the provincial authorities of Alberta. Water for these lands will be diverted from the Bow river through the works of the Canada Land & Irrigation Company.

The question of carriage rights for water through the canal system of the Canada Land & Irrigation Company was the cause of some delay in advancing this project, but an agreement has now been reached regarding payment for the use of the works and for a proportionate share of the operation and maintenance costs. An Act to assist the district by guaranteeing their debenture issue up to the estimated amount required, i.e., $209,500, was assented to by the Provincial Government on March 9, 1923, and preparations are now actively under way for the construction of the works.

SOUTH MACLEOD IRRIGATION DISTRICT

This district lies south of the town of Macleod and immediately west of the Belly and Waterton rivers. The surveys and estimates worked up by departmental engineers showed a project of 61,006.7 irrigable acres to be feasible. Certain school lands and Crown lands had to be withdrawn as special legislation is necessary to make these taxable, and eventually the district was organized on September 21, 1921, under the Irrigation Districts Act with a content of 49,649 acres.

The plans have been approved by the minister and water reserved from Waterton river. The people in the district are very anxious to have irrigation and have complied with all the necessary requirements, but can do nothing more at present as the provincial authorities have declined to guarantee their bonds until they see what progress is made by other large districts whose debentures have been guaranteed.

LITTLE BOW IRRIGATION DISTRICT

This consists of some thirty farms scattered for a number of miles along both banks of the Little Bow river. It is proposed to divert water from Highwood river into the Little Bow—which has not sufficient natural flow—by means of community headworks and a canal, and to re-divert to the individual farms

by pumping plants installed by the several land owners. Surveys were made and estimates prepared in 1921. The district was officially formed on March 5, 1922. The approval of plans and a reservation of water from the Highwood river was obtained from the Minister of the Interior on April 10, 1922, and the necessary advertising having been completed, authorization to construct the works was issued on July 15, 1922.

The irrigable area at present actually included in the district is 2,625 acres and the estimated cost of constructing the community works is $36,100, or $13.75 per irrigable acre. As, however, the Government of the province of Alberta has decided to purchase bonds up to $18,000 in consideration of the use of the works in connection with their license for the diversion of fifty cubic feet per second for the domestic use of the settlers along the Little Bow river, the cost per acre to the individual is reduced to $6.90. Provision has been made for the enlargement of the district to a little over 3,000 irrigable acres.

Construction was started on the headworks and river protection work in December, 1922, and has progressed as rapidly as the varying weather conditions would permit. It is expected the headworks will be completed in the spring, the excavation for the main canal will be commenced as early in the season as possible and all construction is to be finished in 1923.

MEDICINE HAT EASTERN IRRIGATION DISTRICT

In the 1921-22 report it was pointed out that several designs for this project were not considered economical because of the inadequate water supply and that the department was investigating a scheme whereby the spring flood water might be used to provide a partial water right from Ross and Bullshead creeks. With the permission of the minister copies of the plans and reports of this flood scheme were furnished to the officials of the irrigation district, who then submitted their project to the provincial authorities for the guarantee of the bonds of the district. After investigation, the provincial authorities decided that conditions were not such as to warrant the guaranteeing of the bonds but that as the cost was not high the district itself should be able to finance the project, and this the district officials are endeavouring to do.

MEDICINE HAT SOUTHERN IRRIGATION DISTRICT

The first surveys for a project to serve 5,300 acres from Sevenpersons and Paradise creeks were fully reported upon in the 1920-21 report. A district was duly erected and officers appointed under the provisions of the Irrigation Districts Act of Alberta in January, 1921. In 1921 the project was reported on by consulting engineers and not approved as the water supply was considered unsatisfactory.

During 1922 further surveys and studies of the reservoir possibilities in the Sevenpersons drainage basin were made by the department. One site was located in which some 13,000 acre-feet might be stored and from which approximately 3,000 acres might be irrigated. The possibilities of utilizing this storage for the irrigation of the most suitable adjacent lands are now being investigated.

ROBSART-VIDORA IRRIGATION DISTRICT

This is a project south of Maple Creek town. It is proposed to divert water from a reservoir in the Frenchman River valley for the irrigation of 10,000 acres at an estimated cost of $34 per irrigable acre. A detailed report, estimates, and plans were furnished the district officials in 1922, and the parties interested

have decided to proceed with the formation of a district under the provisions of the Saskatchewan Irrigation Districts Act. A petition for organization has been forwarded to Regina, and the provincial authorities now have the matter in hand.

LETHBRIDGE NORTHERN IRRIGATION DISTRICT

Construction work, commenced in July, 1921, has been carried on vigorously, and canal excavation and nearly all the structural works are now complete. It is confidently expected that the system will be ready for operation by May, 1923.

The Irrigation Council has conducted a land selling campaign during the year, in order to assist the farmers in disposing of their surplus irrigable acreage. Many inquiries have been received from all parts of the world and the land is being disposed of in holdings of from forty to one hundred and sixty acres, at prices varying from $12 to $50 per acre according to location and development.

UNITED IRRIGATION DISTRICT

Construction work on this project, commenced in 1921, was continued during the year, the excavation of the main canal and laterals being completed in November, 1922. Concrete and timber structures are not quite finished, but it is anticipated that these works will be ready for use before the commencement of the irrigation season of 1923.

Steps have recently been taken to extend the boundaries of the district northward to include some 2,500 additional acres of irrigable land and it is confidently expected that this area, as well as the original district, will be under irrigation during 1923. There are some individual holdings in the district which are considerably in excess of 160 acres, but no difficulty is anticipated in regard to the disposal of any surplus irrigable lands, as this district is likely to prove very successful under irrigation.

LETHBRIDGE SOUTHEAST PROJECT

As its name implies, this project comprises land south and east of the city of Lethbridge. It is proposed to divert water from the Waterton, Belly, St. Mary, and Milk rivers and by means of storage reservoirs at a number of points to regulate and conserve the available water supply.

Surveys were completed in 1922 after several years of continuous work and the latest estimates show a feasible project of 414,400 irrigable acres at a cost of $16,622,000, or a cost per irrigable acre of $40.11. The irrigable area is divided into twenty-nine districts, of which two or three have now organized and may proceed to construction at an early date.

During the field season surveys were made for a number of extensions to, and revisions of, this project. These included complete surveys of two new districts which have now been added to the project, the Writing-on-Stone district of 12,300 irrigable acres, and the West Magrath district of 10,266 irrigable acres; other important pieces of work completed were: a revision of the supply canal to Chin reservoir and also of the drainage canal from Horsefly lake, and survey of a possible reservoir site on Waterton river.

Estimates have been completed of the several revisions noted above and the plans and estimates of the Lethbridge Southeast project revised accordingly. This completes the surveys of this project and the plans and estimates have been made available to Mr. D. W. Hays, Consulting Engineer, who has been engaged by the department to report on the project.

SOUTH SASKATCHEWAN IRRIGATION PROJECT

Resolutions passed by a number of municipalities in the district adjoining the Empress branch of the Canadian Pacific railway south of the South Saskatchewan river, were, early in 1922, submitted to the Minister of the Interior requesting the Dominion Government to undertake surveys and determine the possibility of pumping water for irrigation to suitable lands in this district. The plan suggested was to create sufficient water-power by damming the South Saskatchewan river, to pump water from the river to the adjoining lands, and it was submitted that this scheme might be carried out in conjunction with the proposed South Saskatchewan general scheme of water supply for the Moose Jaw-Regina district. A party was assigned to this work for a short time to investigate the feasibility of pumping for irrigation and also of extending canals of the proposed North Saskatchewan project southerly across the river to the lands under consideration.

After a reconnaissance of several possible schemes, preliminary surveys were made of the following:—

1 An extension of the canal system of the North Saskatchewan project across the South Saskatchewan river by means of a siphon in section 2, township 24, range 24, west of the 3rd meridian.

2 A pumping scheme from the South Saskatchewan river by means of power generated by a hydro-electric plant located on the river at some point in township 20, range 16, west of the 3rd meridian.

The first scheme was considered in conjunction with the North Saskatchewan project and includes 135.000 acres of land in the Leader, Prelate, Sceptre, and Cabri districts, while the second provides only for 64,000 acres in the Cabri district. Since both schemes depend upon the development of other works, it is not yet possible to arrive at any definite conclusion as to their feasibility.

RETLAW-LOMOND IRRIGATION PROJECT

Petitions received from the majority of the landowners within the boundaries of the proposed Retlaw-Lomond project, in townships 10 to 17, ranges 17 to 20, resulted in a complete plane-table survey being carried out in this area during the 1922 field season. From previous investigations it was known that it was possible to divert water from either the Bow river through the works of the Canada Land & Irrigation Company or from the Oldman river through the works of the Lethbridge Northern district to supply this project.

Field work was commenced on May 10, 1922, and was finished on December 2, the total number of acres plane-tabled being 227,730. In addition to this 570 miles of levels were run, and 129 soil samples obtained and tested. Since the completion of the field-work an office party has been engaged on the design and estimation of distributary systems to serve the maximum commanded area under both the Bow river and Oldman river sources of supply. It is expected that this work will be completed in the near future.

MAGRATH IRRIGATION PROJECT

During 1922 residents on lands in townships 5, 6, and 7, ranges 21, 22, and 23, west of the 4th meridian, took steps to form an irrigation district under the Provincial Act of 1920. and obtain water from St. Mary river through the canal system of the Alberta Railway & Irrigation Company.

Departmental surveys show that the maximum area which could be irrigated in the district is 30,672 acres, and a tentative agreement has been arrived at

between the district and the Canadian Pacific Railway Company, which controls the Alberta Railway and Irrigation Company's system, for the delivery of sufficient water for 14,430 acres, the area it is now desired to irrigate. The scheme is entirely feasible and the construction cost of the supply works has been estimated at $158,600, or slightly over $12.65 per irrigable acre.

MOUNTAIN VIEW IRRIGATION DISTRICT

As a result of requests from residents in townships 2 and 3, ranges 27 and 28, west of the 4th meridian, a reconnaissance and later a complete survey were made to determine the possibility of irrigating lands in the area and a feasible scheme has been planned to serve 2,500 acres from the Belly river at a cost of approximately $13.50 per acre. Plans and estimates have been approved and handed over to the district. The matter is now in hand with the province and the official formation of the district will probably take place early in 1923.

NORTH SASKATCHEWAN PROJECT

This project has been under consideration by the department for a number of years and is fully discussed in previous departmental reports.

During the field season of 1922, preliminary surveys were continued and in addition the project was inspected by a consulting engineer, Mr. D. W. Hays, on behalf of the department.

This project consists of all lands suitable for irrigation within a block of 20,000,000 acres, the boundaries of which extend from a point near Coronation southward to the Red Deer river near Duchess, and eastward as far as the South Saskatchewan river between Outlook and Saskatoon. Some investigations have also been made to include lands to the south of the South Saskatchewan river adjoining the Empress branch of the Canadian Pacific railway. It is estimated from the surveys made that there is an irrigable area of about 1,400,000 acres within the block above outlined, and an additional 135,000 acres to the south of the South Saskatchewan river. Considerable areas along Kneehill, Threehills, and Ghostpine creeks could also be irrigated from a relocation of the main canal from the Red Deer river, but further surveys are necessary in order to determine these areas.

Extensive storage is required to augment the water supply from the North Saskatchewan, Clearwater and Red Deer rivers in order to irrigate the whole of the area, and investigations have been made of a number of reservoir sites on the rivers as well as throughout the irrigable areas. Much time has been devoted to studies of water supply and preliminary estimates of cost and, while it is not yet possible to speak with any certainty, it appears that the cost per acre of the necessary works will be high.

HIGHWOOD RIVER IRRIGATION PROJECT

The first field investigations of this project were made in 1920, when a reconnaissance was carried out primarily for the purpose of diverting the Highwood river to lake McGregor as a water supply for the proposed Retlaw-Lomond district. It was ascertained that under such a diversion canal between High River and lake McGregor there would be a large area of land, mainly in the Champion district, which would require the water from the Highwood river for irrigation. In 1921 preliminary surveys were made to determine the feasibility of this project and consisted mainly of surveys of proposed reservoir sites, main canals and main distributaries.

On September 1, 1921, a memorial was filed by the landowners in the district asking that surveys be continued to finally determine the feasibility of irrigating their lands.

A standard party of three plane-tables was employed during the field season of 1922 to make a complete topographic survey of the project. This was finished by the middle of December and a system designed during the winter months to irrigate some 52,000 acres at an estimated cost of $2,071,000, or $39.50 per irrigable acre.

ALKALI TEST PLOTS AT MAPLE CREEK, SASKATCHEWAN

During the field season of 1921 surveys were made for a proposed project to irrigate the Maple Creek flats. These lands are topographically suitable for irrigation but the soil consists of a heavy clay, of high alkali content, and it was considered that the application of irrigation water might have the effect of concentrating these injurious salts near the surface in quantity sufficient to prevent crop growth. In order to demonstrate the effect of irrigation on soils of this type it was decided to make a series of experiments under actual field conditions for an extended period.

Suitable plots were secured on the outskirts of the town of Maple Creek where soil conditions are similar to the Maple Creek flats, and where a reliable water supply is available from the town mains. One-third of the land was left undisturbed in prairie sod and the remainder broken and seeded to cultivated grasses and grains. One 6-inch and two 4-inch irrigations were applied to each plot during the season. Fair results were obtained considering that the plots were not seeded until May 27 owing to the necessity of breaking and preparing the land. A series of soil samples to a depth of six feet were obtained to determine the alkali content, and to form a record for comparison with future samples, to indicate any change in the relative position of the salts which may occur as a result of irrigation.

REPORT ON DUTY OF WATER INVESTIGATIONS FOR 1922

Under the provisions of the Irrigation Act the Minister is required to fix the duty of water, or amount required to produce maximum crops. To determine what this amount should be, and, consequently, how much should be allotted to applicants, investigations have been carried on at different points for a number of years.

The depth of water required for any locality varies from year to year, in accordance with the amount and seasonable distribution of the rainfall, and to a lesser extent as influenced by temperature and the conditions of soil and subsoil. At the present time eighteen inches is fixed as the depth, which in addition to normal precipitation, will produce the best general results on all crops, under all conditions. In a few localities less than this is required, and a special duty recommended. The investigations and experiments carried on are also of great value to irrigators as indicating the amount of water they should apply to a given crop under varying soil and temperature conditions.

The season of 1922 was more favourable for crop growth than any season since 1917. This was due principally to the June precipitation, which was above average and well distributed, and to the absence of destructive hot winds such as have occurred during May and June of previous seasons. Work done and results arrived at during the past season's work are given more fully in the separate report of the Reclamation Service.

At the Brooks Farm, the crop rotation schedule adopted some years ago to maintain the fertility of the soil has been continued, and during 1922, the

water requirements of wheat and oats were determined under four different conditions of soil fertility, barley under three, potatoes under two, and flax under one. Similar experiments were carried on with alfalfa hay, grass hay, field corn, peas, and the production of alfalfa seed.

Irrigation investigations were carried out in the Coaldale district along the same lines as in previous years. Because of cold wet weather in April work was late in starting but excellent progress was made from May onward.

On eleven fields in forage crops in 1922, from which first-class crops were cut, the average total depth of water received was 1·72 feet, and on four good fields of grain crops the total received was 1·15 feet. In each case 0·67 foot was natural precipitation and the remainder irrigation.

Drainage

J. S. TEMPEST, M.E.I.C., SUPERVISING HYDRAULIC ENGINEER OF THE DRAINAGE DIVISION

During the fiscal year 1922-23 drainage inspections, investigations, and construction were carried on in Alberta, Saskatchewan, and Manitoba by the Drainage Division of the Reclamation Service as follows:—

Alberta.—Location survey of the Athabaska project; investigating surveys and plans of 61 private schemes, and inspection of 9 provincial schemes.

Saskatchewan.—Location survey of the western section of the Carrot River Triangle, construction of Waterhen Lake project; surveys and plans for 6 private schemes, and inspection of 3 provincial schemes.

Manitoba.—Location survey of eastern section of Carrot River Triangle.

Drainage projects investigated are of three classes,—(1) small schemes undertaken by individuals, generally settlers, with a view to raising more winter feed for their stock; (2) schemes undertaken by the provincial governments, to enable groups of settlers to co-operate in carrying out comprehensive drainage schemes for the improvement of their own lands and any Crown lands in the drainage district; and (3) schemes initiated by the Dominion Government for the reclamation of large tracts of swamp lands where upwards of 50 per cent of the land is owned by the Crown. Schemes in classes 1 and 3 are generally situated in the more northern parts of the provinces, where the prevalence of wet lands, swamps, muskegs, and shallow lakes is more marked and where settlement is sparse. Schemes in class 2 are carried out under the jurisdiction of the provincial governments after being inspected and sanctioned by the Dominion Government.

The efforts of the engineers of the Drainage Division have not been confined merely to the engineering requirements of surveying, making plans, and supervising construction of the various projects, but much time and study have been given to the most economical methods of bringing the areas under cultivation after drainage, which in many cases involves the most difficult and uncertain part of reclamation.

No new large drainage projects under Part IV of the Drainage Regulations were investigated during the season, but an attempt was made to complete the surveys of all those already commenced. This work was entirely confined to the Athabaska project in Alberta and the Carrot River Triangle project in Saskatchewan and Manitoba. The field investigations of the former were completed, but another season will be required to complete the latter. Since the formation

of the Drainage Division, 34 large projects have been investigated. Of these only 13 projects aggregating about 269,000 acres have been favourably reported on as feasible, economical, and in the public interest.

ATHABASKA DRAINAGE PROJECT

This project lies a few miles east of the town of Athabaska between the Athabaska river and its tributary, Pine creek, in townships 65 to 68, ranges 19 to 22 west of the 4th meridian. With a desire to develop a country of naturally rich soil and good climate, the Athabaska Board of Trade and many interested settlers petitioned the Federal Government to undertake the reclamation of the swamp lands under the provisions of Part IV of the Drainage Regulations. A reconnaissance made in 1921 resulted in a favourable report and a recommendation that a detailed location survey should be made. A survey party occupied the season of 1922 in making a complete survey. The engineer reports that the project, comprising a total area of 46,800 acres of reclaimable land, can be drained at an average cost of less than $4 per acre.

The plan of reclamation proposed consists of twenty individual systems; three draining into Athabaska river and the remainder into Pine creek, the majority of the latter being comparatively small single ditches. The improvement of Pine creek necessary to prevent an increase of flood conditions would require only the removal of the debris collected at several points. The total length of ditch required, including laterals and creek improvements, aggregates about 135 miles.

CARROT RIVER TRIANGLE DRAINAGE PROJECT

The Carrot River Triangle is a tract of swamp land situated in the provinces of Saskatchewan and Manitoba, and bounded on the north by the Saskatchewan river, on the south by the Carrot river, and on the west by the Sipanok channel—an overflow channel of the Saskatchewan river. The tract comprises an area of 695,168 acres, or 1,086 square miles, with a further 350 square miles in the Pasquai extension of the swamp. The climate is similar to that of the settled agricultural district in the upper Carrot River valley around Kinistino, Melfort, and Prince Albert, with possibly a greater liability at present to summer frosts and a later spring, on account of the prevailing wet and swampy conditions. The soil is the same rich black muck overlying clay and clay loam that characterizes the fertile upper part of the Carrot River valley.

Transportation facilities at present consist of the Canadian National railway touching the eastern extremity of the triangle at the town of Pas, Manitoba, which is 400 miles by rail from Winnipeg. From Pas both the Saskatchewan and Carrot rivers are navigable for boats of small draft to the northwestern and southwestern extremities of the triangle. No part of the tract is more than 16 miles from either one or the other of these navigable streams.

After drainage very little expense and labour will be necessary to bring under cultivation or convert into profitable hay meadows the greater part of the area lying in Manitoba and consisting of several hundred square miles. This portion consists largely of Saskeram and other lakes, the beds of which are so bare of reeds, rushes, and grasses as to be ready for seeding to cultivated grasses as soon as the water has been drained off. The rest of the area in Manitoba consists mostly of luxuriant hay meadows.

In Saskatchewan, although there are many shallow lakes bare of vegetation, and considerable stretches of hay meadows, there is a large proportion of moss muskegs, stretches of reeds, rushes, and scrub timber that will require

considerable clearing after the water is drained off, and therefore will not be reclaimed as economically as the Manitoba portion. The method of reclamation will consist in the construction of levees along the banks of the Saskatchewan and Carrot rivers to keep out the flood waters, and of a system of interior drainage ditches to carry the run-off to sumps, and thence to be pumped over dykes into these two streams.

Until the surveys are completed, and several plans of reclamation considered and compared, the cost of the project or units of the project can only be roughly estimated. Two schemes of reclamation are being considered. In scheme "A" the reclamation of the whole area is contemplated. It is roughly estimated that this scheme would involve an expenditure of $6,077,000 to reclaim 695,168 acres of land, or an average cost of $8.74 per acre. Scheme "B" contemplates only the reclamation of the eastern or Manitoba end of the triangle, and cutting off this area from the rest of the tract by a levee extending from the Carrot to the Saskatchewan. It is roughly estimated that this scheme would cost $2,112,000 to reclaim 163,456 acres, or an average of $12.92 per acre.

WATERHEN LAKE DRAINAGE PROJECT

This project, comprising 13,900 acres, is situated in the Carrot River valley about four miles from the town of Kinistino, Saskatchewan, in townships 44, 45, and 45A, ranges 21 and 22, west of the 2nd meridian. The drainage of this project was undertaken by the Dominion Government and a drainage district was formed in 1920 under the provincial laws. The work of excavating the main ditches was commenced in the spring of 1921, and completed in the fall of 1922. The water of the lake was tapped on July 13, 1922, and was completely drained by August 14 the same year.

After unwatering, the lake bed began to dry very quickly where there was no vegetation and matted roots, and by September it was possible to walk dry shod over the greater part. The marsh and the parts of the lake covered by rushes and coarse grasses are drying very slowly. The additional laterals that are about to be constructed will help to expedite the drying up of these parts very materially. On account of the drier conditions a larger quantity of wild hay was cut than ever before, both on the lake and on the marsh.

About half the lake bed, comprising about 3,000 acres, is now ready for seeding to timothy or other cultivated grass. To complete the works of the project there yet remain to be constructed about 10,000 rods of small laterals, a number of culverts at road crossings, six bridges, right-of-way fencing, and topping of levees.

SMALL DRAINAGE PROJECTS

During the season 77 drainage schemes coming under the provisions of Part I of the Drainage Regulations were inspected. At the present time there are about 15,000 acres of low lands included in these small private schemes being brought under cultivation, and about 20 per cent reclaimed and under crop. The average cost of this reclamation is from $5 to $8 per acre. During the year approximately 1,200 tons of wild hay and 1,060 tons of timothy were produced in Alberta on reclaimed swamp lands in these small projects.

PART V

DOMINION WATER POWER BRANCH

REPORT OF THE DIRECTOR AND CHIEF ENGINEER OF WATER-POWER, J. B. CHALLIES, C.E., M.E.I.C.

The past fiscal year saw the Dominion Hydrometric Survey finally rounded out as a Dominion-wide organization by the completion of the co-operative agreement with the province of Quebec whereby the organization of the Federal Hydrometric Survey was extended to that province.

The past year was also noteworthy as producing a decided acceleration of water-power development; Canada appears to have nearly accomplished the transition from war to peace conditions; industry is stabilizing, and capital is available for development in quantities and for rates unobtainable since 1914. New water-power enterprises have been initiated at many widely separated points and these combined with the increasing cost of coal justify the expectation that water-power installation in Canada will continue to grow at a rate at least as great as that maintained during the past decade.

ORGANIZATION AND SCOPE

The activities of the Dominion Water Power Branch are both administrative and investigatory. The administrative phase of the work arises from the proprietary interest of the Dominion in the water resources in the provinces of Alberta, Saskatchewan, and Manitoba, the Northwest and Yukon Territories, and in the Railway Belt of British Columbia. In this connection the department must of necessity secure such fundamental engineering and economic data as will enable it to consider applications for power privileges, and to control the development, the distribution, and the sale of hydro-electric energy. This is the prime responsibility of the branch.

Throughout the remainder of the Dominion the water-powers are vested in the provinces and investigatory work is carried on in co-operation with the respective provincial authorities charged with their administration. The branch also co-operates extensively with federal departments and commissions other than the Department of the Interior, the services of its engineering field staff, in the interests of general economy and efficiency, being made available to such other departments and commissions.

The co-operative facilities for water resources investigation work throughout the Dominion are as follows:—

British Columbia.—The local organization of the branch, with headquarters at 119 Pender Street West, Vancouver, carries on a broadly planned hydrometric survey and systematically secures fundamental data necessary to a complete analysis of the water-power resources, in accordance with the terms of a co-operative agreement with the Provincial Water Rights Branch of British Columbia.

Alberta and Saskatchewan.—The local organization of the branch, with headquarters at 513 Eighth Avenue West, Calgary, carries on direct administrative

work throughout all parts of the two provinces, in virtue of the proprietary interest of the department in their water-power resources. The investigatory work comprises a comprehensive hydrometric survey and a systematic and exhaustive field and office analysis of the water-power resources of the two provinces.

Manitoba.—The local organization of the branch, with headquarters at 231 Chambers of Commerce Block, Winnipeg, carries on direct administrative work throughout the province, in virtue of the proprietary interest of the department in the provincial water-power resources. A comprehensive hydrometric survey is maintained, as well as a systematic and exhaustive field and office analysis of the provincial water-power resources. In the interests of administrative economy the investigatory work carried on through the Manitoba office has been extended to cover that portion of Ontario lying west of and including lake Nipigon.

Ontario.—The local organization of the branch, with headquarters at Ottawa, carries on a comprehensive hydrometric survey and systematically secures fundamental water resources data in accordance with the terms of a co-operative agreement with the Ontario authorities. The closest co-operation is maintained with the staff of the Ontario Hydro-Electric Power Commission.

Quebec.—The local organization of the branch, recently established with headquarters at Postal Station " H ", corner of St. Catherine and Bishop streets, Montreal, is developing a comprehensive hydrometric survey and has commenced the systematic collection of fundamental water resources data as required by the terms of the co-operative agreement with the Quebec authorities. The closest co-operation is being maintained with the staff of the Quebec Streams Commission.

The Maritime Provinces.—The local organization of the branch, with headquarters at 193 Hollis street, Halifax, in accordance with the terms of a co-operative agreement with the three respective provincial authorities of New Brunswick, Nova Scotia, and Prince Edward Island, carries on a systematic hydrometric survey and a comprehensive and continuous power and storage survey of the three provinces, with a view to securing the fundamental data necessary to a complete analysis of their water-power resources. In New Brunswick, the branch collaborates with the New Brunswick Electric Power Commission; in Nova Scotia with the Nova Scotia Power Commission; and in Prince Edward Island with the provincial authorities.

Yukon and Northwest Territories.—Administrative and investigatory work in the territories form a direct responsibility of the Dominion Water Power Branch in virtue of the proprietary interest of the department in their water-power resources. Investigatory work in the Yukon is handled through the British Columbia organization. In the North West Territories such work is directed from head office, as exigencies demand.

The field organization of the department is based upon and built up around the Dominion Hydrometric Survey staff through which systematic and continuous stream measurement studies are carried on throughout the Dominion. The hydrometric survey field staff is employed in a systematic and continuous field analysis of the country's water-power resources. The data systematically accumulated through this work and through co-operative agreements and studies with other organizations are collated, analyzed, and standardized in the head office of the branch at Ottawa.

As a result, there is now on file in the offices of the Dominion Water Power Branch general and detailed information in respect to run-off and power possibilities of the more important power rivers throughout the Dominion. These

data are constantly being brought up to date as new or later information is received and are promptly available for reference purposes to all interested in the utilization of the water-powers of the Dominion.

THE LAKE OF THE WOODS CONTROL BOARD

The Lake of the Woods Control Board was, as in the previous year, responsible for the regulation of the level and outflow of Lake of the Woods. At the same time certain investigations were carried on in connection with the storage potentialities of lac Seul and of the boundary waters tributary to Rainy lake.

As heretofore regulation of Lake of the Woods embraced the continuous collection of hydrological data relating to the watershed. High precipitation immediately previous to and during spring break-up necessitated the full opening of the Norman dam in April. As a consequence of this precautionary measure lake level did not exceed an elevation of 1060·6 feet, a stage reached on May 25. High outflow was maintained until the first week in July when a partial closure of the Norman dam was ordered. Lack of precipitation in September necessitated the complete closure of the Norman dam but as a result of continued drought in the following month lake level dropped to an elevation of 1059·1 feet. High precipitation occurred at the time of freeze-up and there was a consequent rise in lake level throughout the winter months.

In conformity with the recommendation of the International Joint Commission for the provision of increased outflow capacity from the Lake of the Woods, the board carried on detailed field and office investigations of the most feasible and proper method of providing such increased capacity.

Necessary to a final recommendation by the board as to the storage range on lac Seul, continuous records of lake level and outflow were secured throughout the year. At the same time certain interrelated investigations were made of the upper English river and at the request of the board, the Geodetic Survey of Canada traced a line of precise levels from lac Seul to the junction of the Winnipeg and English rivers and from the latter point up the Winnipeg river to Kenora.

WATER POWER REGULATIONS AND LEGAL RESEARCH

The collection of translations of foreign acts and regulations has been continued during the year.

There has been considerable activity in water-power development in Europe, and this has necessitated some modifications in the basic laws passed by most of the European countries in the period 1916 to 1920, to which reference was made in the Annual Report of the Dominion Water Power Branch for 1921-22, in order to provide for changing economic and industrial conditions. This has been particularly the case in France and Italy, where economic conditions have been somewhat difficult, and has caused a series of changes to be made in the general regulations for the acquisition and development of water-powers adopted by these countries in 1919 and 1920. These supplementary decrees have been translated, and the records containing the water-power laws of Norway, Switzerland, France and Italy have been revised in accordance with the new material received.

Official publications dealing with the national electrical systems of Germany and Sweden, the electrification of the Swedish state railways, and the administrative systems of Switzerland and the Dutch East Indies were also received and translated.

The revised Dominion Water Power Regulations which have been in force since October 31, 1921, were described at some length in the Annual Report for 1921-22, so that no further reference to their provisions need be made, as they

are somewhat long and perhaps difficult to grasp without considerable study. An explanatory pamphlet has been prepared which describes briefly the principles on which they are based, outlines the various steps to be taken in acquiring a license under the Water Power Act, and explains the general rights and obligations of a licensee with particular reference to the financial conditions affecting the security of his investment. These latter include the initial financing of the undertaking, rentals payable to the Crown, regulation of rates, service and the issue of securities, the compensation payable to the licensee when the licence is terminated or cancelled, and the conditions under which a license may be so terminated or cancelled.

Copies of this pamphlet and of the regulations themselves may be obtained on application to the Director of Water Power.

During the year a systematic study was begun of the laws passed by the various legislative bodies in Canada since their inception, dealing with the uses of water, with particular reference to the use of water in the development of power. This survey of the legal principles and administrative procedure which form the basis of water-power development throughout Canada is substantially completed as regards the provinces of British Columbia, Alberta, Saskatchewan, and Manitoba, and some progress has been made with the Maritime Provinces. It is hoped to complete this work during the coming year, after which it will be published in suitable form. It is believed that this is a subject which has not hitherto received adequate attention and that the published results will be found useful for a variety of purposes.

In connection with this work a list of the acts at present in force in Canada, governing the use of water, was prepared at the request of the Commissioner of Drainage and Waters of the State of Minnesota.

BRITISH COLUMBIA ADMINISTRATION

In the Railway Belt of British Columbia the waters and water-powers, although they form part of the public property of the Dominion, are administered by the provincial authorities (except within the Dominion parks) under the provincial water acts, and as the Dominion lands within the Railway Belt are administered by this department it is necessary that the two systems of administration work together in harmony. This involves close co-operation between the Dominion and provincial officials which has been attained in a very satisfactory manner, and enables the responsible officers of this department to exercise a proper degree of supervision over Dominion interests in the waters and the other natural resources affected by their use, and at the same time it establishes a uniform method of acquiring water rights for all purposes throughout the province.

The examination of water records issued by the province appurtenant to lands within the Railway Belt has been continued and the work further systematized. Plans are compiled to show the lands affected in each case, and the granting of necessary rights of use or occupation of Dominion lands under the Water Lands Regulations is proceeding satisfactorily in co-operation with the British Columbia Lands Branch and the Forestry Branch of this department.

A considerable amount of work is done in the Railway Belt by the branch engineers on behalf of the Department of Indian Affairs. Reports are prepared dealing with systems of water supply for the Indian reserves for irrigation, domestic, and other purposes, and works of this nature authorized by the Indian Department are carried out under the supervision of the branch engineers.

Another important phase of this work is the investigation of water rights appurtenant to the Indian reserves in the province, collecting material in support of the Indian claims and preparing it for the information of the Board of

Investigation under the Water Act. Five reports have been prepared in this connection tabulating the water records appurtenant to Indian reserves in each of the five agencies in the Railway Belt, and the information thus compiled has been of great assistance to the board in their work of adjudication and has enabled the Indian claims to be adequately presented at the hearings held by the board.

WATER RESOURCES INDEX INVENTORY

The Index Inventory system for recording and collating the water resources data of the Dominion has been in actual use for the past few years and has provided a most efficient method for the referencing, analysis, standardization, and filing of all data relating to the subject of water resources. The fundamental principles of this system have been referred to in previous annual reports and a complete description has been published as Water Resources Paper No. 32.

The system has been applied to practically all phases of the work carried on by the branch, among the more outstanding of which may be mentioned the complete census of developed water-power and central electric station activities, the analysis of the undeveloped water-power resources, the analysis of the stream measurement activities, and the storage studies carried on throughout the Dominion.

This work has been largely carried on in co-operation with provincial organizations, notably the Hydro-Electric Power Commission of Ontario, the Quebec Streams Commission, the Water Rights Branch of British Columbia, the New Brunswick Electric Power Commission, and the Nova Scotia Power Commission. Resulting therefrom a large proportion of the water resources data of the Dominion has been compiled in standardized form for whatever purpose required, and this material is being continually revised and brought up-to-date as authentic information is secured.

WATER-POWER RESOURCES OF CANADA

The process of collating and analysing existing stream flow and power data is a continuous one and the over-all estimate of water-power resources is periodically revised when new or revised data are sufficient to justify the labour which a new compilation involves. No new compilation was undertaken during the past fiscal year so that the estimate given last year may be repeated.

The recorded power available throughout the Dominion under conditions of ordinary minimum flow is 18,255,000 horse-power, while that ordinarily available for at least six months of the year is 32,076,000 horse-power.

There are installed to date throughout the Dominion water-wheels and turbines to the extent of 2,973,800 horse-power. This installation represents an investment of over $620,000,000 and a coal economy of 26,700,000 tons annually which, at $10 per ton, would cost $267,000,000, a large portion of which sum would be required to pay for coal importations.

As was pointed out last year, existing practice in Canada indicates that it is commercially feasible to install water-wheels and turbines to an extent 30 per cent greater than that corresponding to the above six-month estimate. This being the case the present recorded water-power resources of the Dominion would permit a turbine installation of 41,700,000 horse-power. On this basis the present installation is approximately 7 per cent of that ultimately possible.

The 2,973,800 horse-power at present installed throughout the Dominion is apportioned to the following uses:—

2,204,500 horse-power in central electric stations for general distribution purposes, such as, operation of street railways, mines, electro-chemical and electro-metallurgical industries, pulp and paper mills, and general industrial and domestic use.

484,200 horse-power is installed in pulp and paper mills. In addition there is used in the pulp and paper industry 161,000 horse-power purchased from central electric stations.

285,000 horse-power is installed in industries other than central electric stations and pulp and paper mills.

The total installation for the Dominion averages 338 horse-power per thousand population, which figure places Canada second only to Norway in the per capita utilization of water-power.

During 1922 the turbine installation in Canada increased by practically 250,000 horse-power, while 190,000 horse-power installed in 1921 was not placed in operation until 1922. The new installation took place in sixteen different power plants scattered from Halifax to Vancouver, two of which, situated on the Winnipeg river in Manitoba, are within the administrative jurisdiction of the department.

More significant, probably, than the actual installation has been the rapid growth of new development for there is at the present time approximately 1,000,000 horse-power either under construction or actively projected. This progressive development of "white coal" gives assurance that, not only will the average citizen continue to have an ample supply of electric power in the home and for general public utility services, but that there will also be sufficient surplus power to stimulate both the growth of present and the establishment of entirely new industrial enterprises.

CENSUS OF THE CENTRAL ELECTRIC STATION INDUSTRY

Owing to the fact that over 97 per cent of the electrical energy generated by the central electric stations of Canada is produced by the development of our widely distributed and advantageously situated water-powers, the gathering and analysis of accurate statistics of the industry becomes of prime importance to the Dominion Water Power Branch.

Under the terms of a co-operative agreement between the branch and the Dominion Bureau of Statistics and as part of the Census of Industry conducted by the bureau, an annual census of the central electric station industry is taken. The fifth annual census was completed during the past year and an exhaustive analysis of the data gathered is being published in two sections, Part I presenting a general census and statistical digest of the industry as at January 1, 1922, together with the necessary explanatory text, and Part 2 comprising a comprehensive directory of all public or privately-owned organizations distributing electrical energy for sale showing investment in plant and equipment, installation, mechanical equipment, service, location of power for sale, rates and transportation available.

While the data included in the directory are based on the statistics of Part I, it has been possible to include considerable later data, the date to which each particular description is complete being placed at its head.

Copies of Part I (Statistical) of this report may be obtained upon application to the Dominion Bureau of Statistics; for Part 2 (Directory) applications should be addressed to the Director of Water Power.

The 857 stations included in the census may be divided into two main classes: first, those developing or distributing electricity generated from water-power and, second, those developing or distributing electricity generated by the consumption of fuel. The first class includes 588 stations, of which 259 are actively engaged in the generation of power, and 329 which buy power *en bloc* from these hydraulic generating stations and distribute it to their customers.

The second class consists of 251 stations producing electricity by the consumption of various kinds of fuel, and 18 which distribute power purchased from them.

Of the total primary power installation of 1,977,857 horse-power, 1,826,357 horse-power, or 92·4 per cent, is installed in hydraulic generating stations, the primary power equipment of the fuel stations amounting to 151,500 horse-power, but in addition to their water-wheels and turbines the hydraulic organizations maintain fuel auxiliary or stand-by equipment aggregating 133,562 horse-power, or an amount equal to 88·2 per cent of the main fuel station equipment, for use during periods of excessive demand or shortage of power due to accidents, insufficient water or similar causes.

The total capacity investment of the industry amounts to $484,669,451, of which $455,193,498, or over 94 per cent, represents the value of the hydraulic stations and their transmission and distribution equipment as compared with $29,376,580, the investment of the fuel organizations.

A comparison of the revenue and output of the two classes of stations brings to light the most significant figures of the analysis from the standpoint of the power consumer. The hydraulic generating stations produced 5,447,582,000 kilowatt hours of energy and the revenue received by all hydraulic stations amounted to $63.622,279, or an average of 1·1678 cents per kilowatt hour. The fuel generating stations produced 166,550,000 kilowatt hours for which the revenue received was $9,754,301, or 5·8567 cents per kilowatt hour. While these figures are somewhat affected by sales of power from one generating station to another and by the practice of the larger hydro-electric organizations in selling a large part of their output *en bloc* to non-generating organizations for distribution, the disparity in price remains very marked.

An outstanding feature of this census is the large number of existing hydro-electric stations which report contemplating the installation of additional equipment, a total of 92,540 horse-power being so reported. In addition a considerable number of new stations are under construction.

DOMINION HYDROMETRIC SURVEY

The Dominion Hydrometric Survey has during the past year become national in scope, embracing all the provinces in the Dominion. Other than the Prairie Provinces, where the work is a direct responsibility of the Federal Government, co-operative agreements for such work have been entered into from time to time with individual provinces, until with the consummation on October 1 of such an agreement with the Quebec Streams Commission, all the provinces were comprehended in the surveys activities. This consolidation of hydrometric investigation has rendered most effective both the gathering and dissemination of stream flow data. Methods throughout have been standardized with a consequent natural gain in efficiency and an over-all saving in administration, together with the added valuable factor of making available to the public water resources information at one central source.

The ever-increasing utilization of water resources for diversified and often conflicting purposes has given rise to a most pressing demand for detailed and extensive records of the regimen of the various lakes and rivers of the country and particularly has this been evident in connection with power development and irrigation projects. Probably in no greater manner is recognition given the importance of stream flow records than in the material voluntary co-operation afforded the survey by numerous individuals and private corporations.

With consolidation of the hydrometric survey, it has been possible to so rearrange both field activities and office administration as to ensure the most

efficient prosecution of the work. For purposes of field operation and publication of records the past arbitrary divisions of provincial boundaries have been eliminated, and the logical and natural divisions of major drainage basins instituted. The main drainage basins into which the country has been divided together with the location of the district office or offices in charge are as follows: Pacific Drainage, Vancouver; Arctic and Western Hudson Bay Drainage, Calgary and Winnipeg; St. Lawrence and Southern Hudson Bay Drainage, Ottawa and Montreal; Atlantic Drainage, Halifax.

Run-off Conditions in Canada.—With the exception of southeastern Saskatchewan, southern Manitoba, and the Maritime Provinces, the average run-off for the year as shown in detail in the reports of the district chief engineers was slightly below normal. The distribution of run-off throughout the year was, however, at variance with average conditions; in the major portion of the country flood inflow exceeded the average while run-off during the autumn months was deficient.

In the Pacific Drainage, stations typical of general run-off conditions indicated a run-off of 95 per cent of the average. Flood run-offs while not abnormal exceeded the mean by from 5 per cent to 50 per cent, whereas deficiencies in other months ranged from 20 per cent to 30 per cent below the mean.

Run-off in the Arctic and Western Hudson Bay Drainage with the exception of the Assiniboine River basin, ranged from 50 per cent to 90 per cent of normal. In the Assiniboine basin and adjacent smaller basins to the north excessive spring floods were encountered and the average for the year was 200 per cent of the mean of previous years.

In the St. Lawrence and Southern Hudson Bay Drainage comparative records are only available for drainage within the province of Ontario, where the average for the year ranged from 70 per cent to 97 per cent of the mean.

Run-off in the Atlantic Drainage as comprising the Maritime Provinces was exceptional as compared with the other drainages. Flows 200 per cent of the normal during summer months raised the average for the year above that of other years.

POWER AND STORAGE INVESTIGATIONS

Owing to the need for careful apportionment of field expenditures, power and storage investigations were undertaken during the past year only where urgent conditions demanded. In head office, however, and in the various field offices the analysis was continued of the developed and undeveloped water-power resources of the Dominion. This work was carried on in co-operation with the provincial authorities in British Columbia, Ontario, Quebec and the Maritime Provinces, where administration of water-powers is purely a provincial responsibility.

In British Columbia a special study was commenced of the run-off data of certain streams in connection with proposed power schemes supplying the city of Vancouver. The analysis of the water-power resources of the province was actively carried forward in co-operation with the Provincial Water Rights Branch.

In Alberta attention was given to an application to develop power on the Crowsnest river and an interim license was recommended. An inspection was made of a small water-power site on Cranberry creek, and an investigation also made of the condition of a dam at the outlet of Gull lake formerly used for power. Responsibility for the operation of the lake Minnewanka storage during the filling seasons was again assumed by the department with very satisfactory results to all concerned. In connection with the power possibilities of the Bow River basin, office studies were made of dependable outflow from Spray lakes and lake Minnewanka.

In Manitoba an investigation was made in connection with an application to develop a small water-power on Peterson creek, a tributary of the Bird river. In co-operation with the Geodetic Survey of Canada a series of permanent bench-marks were established at all strategic points along the Winnipeg and English rivers.

In Ontario surveys were made at the outlets of the Lake of the Woods at the request of the Lake of the Woods Control Board for the purpose of ascertaining the best methods of obtaining a better control and regulation of the lake. In connection with the analysis of the water-power resources of the province, office studies were continued in co-operation with the provincial authorities.

In Quebec, following the co-operative agreement between this branch and the provincial authorities, an exchange of water resources data was made and the analysis of the developed and undeveloped powers of the province was actively carried forward.

In New Brunswick active co-operation was maintained with the New Brunswick Electric Power Commission, and investigations were carried out on the Digdequash and two other small streams near St. George; also an investigation was commenced at Grand falls, on the St. John river.

In Nova Scotia co-operation was maintained with the Nova Scotia Power Commission and investigations were made on the Economy river, Fales river near Kingston, Mulgrave brook and Pirates Cove brook near Mulgrave, river John near the village of River John, and Tupper Lake brook near Waterville. Office studies were made of a number of projects actively under consideration.

FLOODED LAND SURVEYS

The work of fixing a boundary for the area to be reserved for power purposes along the Winnipeg river, which was commenced in 1919 and continued in 1920 and 1921, was this year extended so as to include that section of the river between the McArthur Falls site and the power development now under construction at Great Falls. In addition to the survey of the Great Falls section a survey was made of that portion of the river extending from the lower Seven Sisters site in section 5, township 14, range 11, E.P.M., to the east boundary of sections 27 and 34 in township 13, range 11, E.P.M.

The survey of the power reserve in the Great Falls section was commenced at the north boundary of sections 34 and 35 in township 16, range 11, and extended northward E.P.M. to near the north boundary of section 27, township 17, range 11, E.P.M. The retracement survey was closed on the northeast corner of section 34, township 17, range 11, E.P.M. The location of the boundary of the power reserve involved the survey of contour 814 feet. For this purpose elevations were taken throughout the district and a traverse was run near the contour. The courses were measured by means of a transit and chain. The boundaries of the sections intersected by the traverse were surveyed and the traverse was closed on the section lines.

In the traverse of the west side of the Great Falls section there is a break in the contour at T.H. 18 to T.H. 21, at T.H. 28 to T.H. 29 and at T.H. 38 to T.H. 44. The summit here is below elevation 814 feet and if the water surface is raised to elevation 805 feet or over, dyking will be necessary. The average fill necessary to raise the ground surface to elevation 814 feet will be 6·5 feet and the length of the embankment will be 10,550 feet along the railway in addition to the two smaller fills aggregating 1,000 feet in length and 3 feet in height. If the railway grade were used as a dyke the same results would be obtained by raising the grade an average of 3 feet for a distance of 9,000 feet in addition to the two smaller dykes mentioned above.

In the Great Falls survey 40 miles of traverse and 25 miles of section lines were run.

The work at the lower Seven Sisters site was commenced on the north boundary of section 5, township 14, range 11, E.P.M., and closed on the east boundary of sections 27 and 34 in township 13, range 11, E.P.M. Contour 875 feet was traversed on both sides of the Winnipeg river and the boundaries of the sections crossed by the traverse were resurveyed in the usual manner. No attempt was made, however, to locate this contour along the Whitemouth river which enters the Winnipeg river from the south in section 28-13-11 E.P.M.

The banks of the Winnipeg river just below the lower falls are very high and being of clay are, in some places, very unstable. Immediately below the junction of the Whitemouth with the Winnipeg the south bank is about 50 feet above the water.

In the lower Seven Sisters district 15 miles of traverse and 15 miles of section lines were surveyed. The posting of this section was not completed owing to low water in the river which prevented the transport of supplies and necessitated closing down the work earlier than was expected.

PART VI

NORTHWEST TERRITORIES AND YUKON BRANCH

REPORT OF THE DIRECTOR, O. S. FINNIE

General

All matters, with the exception of mining, pertaining to the Department of the Interior and having to do with the Northwest Territories and Yukon, are now under the control of this branch. During the year there has been steady progress in the work carried out in both administrative divisions, and statements respecting the different features will be found hereunder.

Northwest Territories.—A change has been effected in the title of the chief executive officer at Fort Smith. The position of Mining Recorder, Mackenzie District, N.W.T., is abolished and a new position, District Agent, admitting of a wider scope, has been created.

Mr. Justice Dubuc, Judge of the District Courts (Peace River and Edmonton) by virtue of Order in Council, dated June 28, 1922, was appointed Stipendiary Magistrate for the Northwest Territories.

Customs duties in the Franklin district are now collected at Craig Harbour and, as formerly, at Ponds Inlet, by members of the Royal Canadian Mounted Police.

Post offices were established at Aklavik, Mackenzie district, on July 6, 1922, and at Craig Harbour, Ellesmere island, Franklin district, on August 28, 1922.

On the close of navigation in 1922, the Union Bank of Canada transferred its branch office from Fort Smith to McMurray, Alberta.

During the year, Mr. J. F. Moran made a trip of general inspection in the Mackenzie district, proceeding down river as far as Aklavik. Mr. W. L. L. Cassels was engaged on survey and other related work in the vicinity of Fort Smith, while Mr. Maxwell Graham investigated matters pertaining to the wood bison and the area then under consideration for the habitat of these animals.

Yukon Territory.—The director made a trip to the Yukon in the summer of 1922 on special investigational work, not only for the Department of the Interior, but also for the Departments of Justice, Public Works, and Post Office.

The report of the Gold Commissioner at Dawson, which will be found hereunder, deals with all the phases of the work except mining conditions. His report on mining will be found in the report of the Mining Lands Branch in the Dominion Lands section of this report.

Northwest Territories

EDUCATION AND HEALTH

The sum of $3,000 was set apart for education for the fiscal year in the Northwest Territories. One thousand dollars was devoted to general purposes and the remainder applied toward the support of boarding and day schools, conducted by the Church of England and Roman Catholic missions.

Day schools, maintained by the Church of England missions at Aklavik, McPherson, and Simpson, received $200 each, and the boarding school at Hay River, $400. The day school maintained by the Roman Catholic mission at Fort Smith received $200, and boarding schools at Providence and Resolution $400 each.

A total of $6,925 was expended on the Fort Smith and Simpson hospitals during the year. A grant of $1.50 per day was made for the maintenance of indigent whites and half-breeds in the hospitals in the various districts, and an extra 50 cents per day for each patient treated.

The number of days devoted to the treatment and maintenance of each class of patients was as follows: Treaty Indians 7,375, indigent whites and half-breeds 1,398, pay patients 573, total 9,346.

During the year the fullest co-operation was extended to the Dominion Bureau of Statistics. Under authority of the Vital Statistics Ordinance, a supply of forms was distributed throughout the territories to qualified persons to aid in the collection of more important figures. The Dominion Bureau is giving further consideration to the organization of the territories for the purpose of facilitating collection of statistics.

The annual return up to December 31, 1922, which was laid before Parliament in accordance with section 88, chapter 62, R.S.C., on February 18, 1923, shows the number of permits issued by the commissioner to import liquor into the territories, for medicinal purposes, to have been 140, and the amount to have been 358 gallons. The maximum quantity permitted each person for medicinal purposes is two gallons per annum.

TIMBER

The regulations relating to the conservation of timber were strictly enforced. An official of the Northwest Territories acted as chief fire ranger, and had jurisdiction between Wrigley and Good Hope.

The portable saw-mill taken over from the Department of Indian Affairs was set up at Grande De Tour on Slave river, forty miles north of Fort Smith. The mill was operated during the summer of 1922, turning out approximately 500,000 feet of lumber. Shipments were made to various trading posts and the remainder held for future requirements.

GAME

Under the North West Territories Game Act, which is enforced by the Royal Canadian Mounted Police, licenses were issued as follows:—

Hunting and Trapping.—Residents, 151; non-resident British, 65; non-resident non-British, 26; total, 242.

Trading and Trafficking.—Residents, 155; non-resident British, 6; non-resident non-British, 8; total 169.

The revenue received from these licenses amounted to $5,613.

Furs taken under license and as given in returns received during the year were as follows:—

STATEMENT OF GAME TAKEN IN THE NORTHWEST TERRITORIES IN THE FISCAL YEAR 1922-23

Animal	Hunting and Trapping	Trading and Trafficking	Totals	Approximate value of pelts	
				Average value pelts	Total value of pelts
	No.	No.	No.	$ cts.	$ cts.
Moose	31	16	47	2 85	133 95
Caribou	147	88	235	2 00	470 00
Deer	11	300	311	1 38	429 18
Mountain sheep	8	.....	8	.....	.....
Mountain goat	96	.....	96	.....	.....
Otter	2	64	66	27 26	1,799 16
Beaver	124	2,292	2,416	18 38	44,406 08
Marten	1,629	7,429	9,058	20 61	186,685 38
Fisher	1	9	10	74 65	746 50
Mink	905	6,952	7,857	9 00	70,713 00
Muskrat	14,284	153,894	168,178	1 53	257,312 34
White fox	2,112	23,935	26,047	38 26	996,558 22
Blue fox	6	62	68	70 87	4,819 16
Red fox	5	369	374	12 46	4,660 04
Cross fox	176	1,229	1,405	50 36	70,755 80
Black fox	.....	12	12	6 12	73 44
Wolf	71	271	342	10 35	3,539 70
Wolverine	27	219	246	17 56	4,319 76
Lynx	50	185	235	20 37	4,786 95
Skunk	27	18	45	2 34	105 30
Ermine	1,077	4,332	5,409	0·55	2,974 95
Brown bear	29	294	323	9 26	2,990 98
White bear	1	39	40	18 08	723 20
Coyote	.....	3	3	9 07	27 21
Silver fox	.....	4	4	147 36	589 44
					1,659,619 74

WOOD BUFFALO PARK

A reserve of approximately 10,500 square miles, created by Order in Council as a Wood Buffalo park under the authority of the Forest Reserves and Parks Act, was made to include the entire habitat of the wild bison of the north, and a portion of the habitat of the woodland caribou. The area extends north and south of the northern boundary of the province of Alberta, and consists of a northern and a southern range, sheltering approximately 1,500 buffalo. The park is in the care of a warden service consisting of nine men, and the district agent at Fort Smith occupies the position of park superintendent.

INSPECTION TRIP TO THE NORTHERN ARCHIPELAGO

Departmental officers made a trip to the northern islands via Davis strait and Baffin bay in the Canadian Government steamship *Arctic*, during the summer, with the object of making a general inspection of the district, enforcing existing regulations and preserving law and order. The party sailed from Quebec July 18, 1922, returning to that port October 2, having established police posts at Craig Harbour on Ellesmere island, and Ponds Inlet on the north coast of Baffin island. The expedition was in charge of Mr. J. D. Craig, D.L.S., and the ship was commanded by Captain J. E. Bernier.

An inspector and six other members of the Royal Canadian Mounted Police were left at Craig Harbour while a corporal and two men were detailed to assist Sergeant Joy at Ponds Inlet, where he had been for the year previous investigating an alleged murder. Supplies for two years were left at both posts. Astronomical stations were also established marked by brass bolts inscribed "Canada, N.W.T.," and observations were taken to determine latitude, longitude, and azimuth.

Data were secured for the mapping of Craig Harbour, Dundas Harbour, Albert Harbour, and Ponds Inlet, and a hitherto uncharted portion of the coast of Ellesmere island was explored and sketched.

Valuable information concerning flying conditions in the north was obtained by a representative of the Air Board who accompanied the expedition, and a complete cinematographic record of the trip was taken.

REINDEER HERD AT LOBSTER BAY

Mr. D. L. McKeand of this branch, and Dr. Seymour Hadwen, veterinarian and parasitologist, made inspections of the reindeer herd at Lobster bay, Quebec. The herd was originally imported from Norway into Newfoundland by the Grenfell Institute and was later transferred to Lobster bay at which time it numbered 125 head.

The reindeer were reported as healthy and a slight numerical increase estimated. Owing to the cost of maintenance, and the unsatisfactory results of the whole experiment, it was decided to accept an offer made by Mr. G. Martin-Zede, manager of the Island Administration of Anticosti, to assume responsibility in 1923 for the care and maintenance of the herd. According to the agreement, the reindeer are to remain the property of the department until by natural increase, five times the number of reindeer transferred to the island are returned; in addition, all facilities are to be afforded by the custodians to any official authorized by the minister to make an inspection, and suggestions as to betterment of the herd are to be carried out.

Owing to depredations by wolves in the time previous to the herd's shipment to Anticosti, their temporary removal from Lobster bay to the Dog islands was authorized.

PUBLICATIONS

During the fiscal year the following publications were issued and are now available for distribution:—

1 Manual for operators under Oil and Gas Regulations.
2 Reindeer and Musk-ox Report.
3 Posters and Circulars for the Protection of Caribou.
4 Game Law Posters.

The purpose of the "Oil and Gas Manual" is to furnish the operators and drillers with a concise and convenient arrangement of the Petroleum and Natural Gas Regulations which directly or indirectly concern the operations conducted on petroleum and natural gas leases. Explanations and instructions are given indicating the particulars required by the Department of the Interior and the correct method of filling out the forms in compliance with the regulations. The manual is accompanied by a map, showing the natural gas resources of the province of Alberta. This map may be obtained without the report if so desired. Operators will find it advantageous to keep the manual at hand for reference, and to furnish drillers with copies thereof.

The "Reindeer and Musk-ox Report" is the result of an exhaustive research on the part of the Royal Commission appointed by Order in Council, on May 20,

1919, to investigate the possibilities of the reindeer and musk-ox industry in the Arctic and Sub-Arctic regions. The personnel of this commision was as follows: Dr. J. G. Rutherford, C.M.G., chairman, and Messrs. J. B. Harkin and J. S. McLean, commissioners.

Folders and posters for the protection of caribou were printed in both English and Cree and distributed throughout the Northwest Territories.

Game law posters, indicating the open and close season for hunting and trapping in the Northwest Territories, were also distributed.

REVENUE

A statement of revenue collected for the fiscal year 1922-23 is attached, and the reports of the senior mining inspector and the petroleum engineer are submitted herewith.

NORTHWEST TERRITORIES REVENUE

STATEMENT—Revenue collected in the Northwest Territories in the fiscal year 1922-23

	$ cts.	$ cts.
Dominion Lands—		
General sales	784 39	
Sundry fees	12 00	
Suspense account	1,689 05	
		2,485 44
Crown Timber—		
Timber dues	1,876 54	
Hay permits	6 00	
		1,882 54
Mining—		
Petroleum	10,987 31	
Registration fees	28 00	
Mining fees	5,571 81	
		16,587 12
General—		
Liquor permit fees	231 40	
Fines and forfeitures	527 40	
Trappers' licenses	4,433 00	
Traders' licenses	1,180 00	
		6,371 80
Grand total		27,326 90

MINING—C. C. ROSS, SENIOR MINING INSPECTOR

The failure of the Western Canada Operators and the United Mine Workers of America to agree as to the terms of a new contract to replace the one which expired March 31, 1922, resulted in a strike in all the union mines in Alberta, lasting four and a half months. The parties eventually came to terms to resume work under the terms of the old agreement until March 31, 1923, and this was extended in February, 1923, to March 31, 1924. This strike and the general economic depression, coupled with the mild weather which prevailed during the fall and winter, were some of the causes of considerable fluctuation in the output of coal in Alberta during the last year.

The Fordney Tariff Bill, placing a duty of fifty-three cents a ton on sized coal and fourteen cents a ton on slack, imported into the United States, seriously affected the export of coal from the Crowsnest Pass field into the adjacent north-western states.

The table which follows is divided into three classes showing output of coal from Dominion lands subject to royalty, coal subject to royalty taken from School lands, and coal produced not subject to royalty.

Province	Calendar year	Output subject to Royalty		Not subject to Royalty	Total
		Dominion lands	School lands		
		tons	tons	tons	tons
Alberta	1921	3,282,838	312,962	2,331,470	5,927,270
Saskatchewan	1921	46,142	48,480	247,190	341,812
Alberta	1922	3,485,920	200,306	2,290,206	5,976,432
Saskatchewan	1922	48,760	48,491	285,186	382,437

The table hereunder shows the number of mines operating in Alberta and Saskatchewan during the years 1921 and 1922, subject to royalty, and those not subject to royalty, also the total number operated in each province.

Province	Calendar year	Number of operating coal mines subject to royalty		Not subject to royalty	Total
		Dominion lands	School lands		
		No.	No.	No.	No.
Alberta	1921	179	16	76	271
Saskatchewan	1921	57	6	15	78
Alberta	1922	236	24	119	379
Saskatchewan	1922	50	10	20	80

In Alberta, operating mines were inspected and reported on. Mr. F. M. Steel was appointed mining inspector, and reported for duty on August 28, 1922, to succeed Mr. J. W. McIntosh, who resigned on April 1, 1922. For two months in the intervening period Mr. R. J. Lee, the inspector for Saskatchewan, was stationed in Calgary to assist Mr. Ross with Alberta inspections.

During the year, development work was started in the western limit of the Crowsnest field by the Spokane Alberta Coal Company, Ltd. It is expected that a spur five and a half miles long will connect this new mine with the Crowsnest Branch of the Canadian Pacific Railway. The principal producing fields in Alberta are as follows:—

Steam coal—(1) Crowsnest-Bellevue, Coleman area; (2) Rocky Mountain Park-Canmore, Bankhead area; (3) Brazeau-Mountain Park, Coalspur-Brûlé area.

Domestic—(1) Lethbridge; (2) Drumheller; (3) Carbon; (4) Ardley; (5) Saunders; (6) Edmonton; (7) Wabamun.

Since the completion of the Acme-Drumheller branch of the Canadian Pacific Railway there has been a great increase of activity in the carbon field, a new domestic coal area of considerable extent. This branch line also affords additional transportation facilities for the mines in Red Deer valley, and if the proposed extension of the railway southeasterly along the Red Deer river is carried out it will increase the chances of that large area south of Drumheller, now held under the coal-mining regulations, of becoming a productive field. Existing mines have largely improved their equipment. The Peerless Coal Company has installed a new plant and the Carbon Fuel Power and Light Company has installed electric coal-cutting machines.

Unfortunately the larger mines in the Taber district have been experiencing financial and labour difficulties, with the result, in one case, of the Canada West Coal Company being taken over by the trustees and only being operated at present on a comparatively small scale. The Regal collieries have been closed down since December for like reasons.

In the Ardley district the Carbondale Coal Company has installed an up-to-date plant and extended its operations. Many country bank mines of limited extent have been opened up chiefly in the domestic coal areas, and although their output is approximately only 8 per cent of the total lignite production, they have been the means of enabling the farmers, as well as the people of the small towns and villages, within a limited radius, to obtain suitable fuel at a low rate.

In Saskatchewan eleven new mines were surveyed and thirty-three extensions made. The inspector assigned to Saskatchewan was called upon several times to advise the managers of mines in emergency cases. One such instance occurred on April 27, when it was estimated that 10,000,000 gallons of water broke into the Crescent collieries.

Several cases of illegal mining were investigated and reported on. A number of small operators were also advised as to the best and most economical methods of working their mines.

There were no strikes during the year in this province and no fatal accidents in any of the mines being operated on Dominion lands. This satisfactory state of affairs is due largely to the fact that since the appointment of an inspector for Saskatchewan the small operators are using more timber and working their mines in a more systematic manner than formerly.

PETROLEUM AND NATURAL GAS—S. E. SLIPPER, PETROLEUM ENGINEER

Routine inspections were made during the year. A large part of the time was taken up in complying with requests of operators and others for advice and assistance.

Early in the year it was reported that one of the capped gas wells at Upper Pelican on the Athabaska river had "blown out" around the valve and that the flow of gas had become ignited and was burning fiercely. This type of gas well fire is very difficult to extinguish and in order to successfully accomplish the feat some unique and original methods were introduced. Briefly it may be explained, that the defective valve was removed from the well by using rifle fire from a distance of 25 yards to cut the casing immediately below the valve, which then dropped off the casing head. Afterwards the flame was extinguished by diverting the flow of gas with a smokestack brought over the mouth of the well by means of a travelling pulley on an aerial cable.

Practical experiments in the field have proved the usefulness of the Wheatstone Bridge to detect the source of waters found in defective wells. This very useful method of quick analysis was developed through the assistance of the Mines Branch of the Department of Mines.

Apparatus was constructed for determining the quantity of gasolene in natural gas and tests of gas were made in the Turner Valley field.

DETAILS OF OPERATIONS APRIL 1922-MARCH, 1923

Province	Number drilling during year	Commenced this year	Abandoned this year	Producing gas	Producing oil	Remarks
Alberta	25	9	3	*59	6	*Does not include gas wells capped
Saskatchewan			2			
Manitoba	1					
British Columbia	1					Railway belt
Northwest Territories	4				1	

Northern Alberta

Peace River Field.—Active boring operations were carried on at one location during the year. At the bore hole in question the drill has penetrated through the Cretaceous to a considerable depth into the underlying Devonian. It is reported that strong seepages of oil have been obtained in the Devonian and if this is correct it would lend a much more promising outlook for the development of an oil production in the area lying between the Peace and Athabaska rivers.

There are eight bore holes in the Peace River field where the water horizons have not been sealed off, and from which large volumes of natural gas are being continuously dissipated.

Pouce Coupé Field.—The Northwest Company have continued drilling on section 26, township 80, range 13, west of the Sixth meridian. Very little progress was made during the past year.

Central Alberta

Birch Lake District.—Drilling has been in progress on section 14, township 50, range 12, west of the Fourth meridian. Some very promising showings of light oil were obtained at 2,040 feet. Drilling was suspended during the winter months.

Fabyan-Wainwright District.—The Northwest Company abandoned their Gratton No. 1 on L.S. 16, section 18, township 45, range 7, west of the Fourth meridian, after having attained a depth of 2,730 feet. Heavy black oil was obtained at different horizons between 1,892 feet and 2,225 feet in both lower Cretaceous and Paleozoic. The oil was of such poor quality and so viscous that it was not possible to produce.

Natural gas was obtained at depths between 1,727 and 1,870. The probable open flow of the well was 10,000,000 cubic feet per day, and the pressure about 750 pounds. The well was abandoned in such manner that it can in the future be utilized as a gas well.

The British Petroleums Company are drilling for oil on L.S. 1, section 36, township 45, range 7, west of the Fourth meridian. At 2,015 feet a large flow of gas was obtained. Drilling is being continued deeper.

Monitor District.—The West Regent Oil and Gas Company drilled to a depth of 2,000 feet, with rotary equipment on section 19, township 34, range 4, west of the Fourth meridian, and then changed over to cable tools and drilled to 3,350 feet, when operations were suspended. The Paleozoic limestones were penetrated at 3,000 feet and were found to be slightly bituminous.

Misty Hills District.—The Northwest Company have been drilling on section 29, township 32, range 4, west of the Fourth meridian. The well was abandoned during the year at a depth of 3,300 feet without having penetrated the Paleozoic limestone.

Foot-hills

Coalspur District.—The Northwest Company have been drilling on section 3, township 49, range 21, west of the Fifth meridian.

Turner Valley Field.—Natural gasolene is obtained from the gas produced from wells Nos. 1, 2, and 3 of the Royalite Company. The gas, after the extraction of gasolene, is transmitted to Calgary for domestic consumption. The Turner valley production is the mainstay of Calgary's supply. The Bow Island field, which formerly supplied Calgary's fuel consumption, is now practically exhausted. The daily production from the Turner Valley field approximates 4,000,000 cubic feet.

A production of oil is obtained from southern Alberta wells Nos. 1 and 2, the Alberta Southern well No. 1, the Canada Southern well No. 1, and the Sheep River Oil Company's well No. 1. No. 4 well of the Royalite Oil Company, which was commenced this year, has recently obtained a flow of gas at a depth of 1,700 feet.

In September, 1922, an inspection was made of the Illinois Alberta well on L.S. 14, section 12, township 30, range 3, west of the Fifth meridian. The well was 3,040 feet deep and a large volume of gas was flowing from it. The flow was measured and proved to amount to 1,096,000 cubic feet per twenty-four hours. In January, 1923, advice was received from the company that the flow had suddenly increased without, however, any further drilling having been done. The new flow was measured and determined to be 3,312,576 cubic feet per twenty-four hours open flow, and the closed pressure of the gas was 820 pounds. Under the conditions this increase is a remarkable occurrence. The flow was again measured in February and this time the measurement showed only 1,261,920 cubic feet, but it is believed that between the January test and that of February the well casing had become defective. Tests were also made of the gasolene content of the gas and it was found to contain an appreciable amount.

Willow Creek District.—The Northwest Company are drilling the Willow Creek well on section 29, township 14, range 2, west of the Fifth meridian. A small amount of oil and gas has been obtained, but not in commercial quantities. Drilling is being continued.

Southern Alberta Prairie

Bow Island Gas Field.—The maximum pressure of natural gas now obtained in this field amounts to a little over 180 pounds gauge pressure, and the supply from this field is used by the Canadian Western Natural Gas, Light, Heat and Power Company to serve as a reserve in cold weather to augment the supply now obtained from the Turner valley for the city of Calgary and other points in southern Alberta.

Medicine Hat-Redcliff Field.—No new development took place during the year. Pressure tests in the Medicine Hat field indicate a decline of 10 or 15 pounds for the year.

Many Island Lake Field.—Natural gas is flowing from the well drilled by the Medicine Hat Development Company on L.S. 4, section 19, township

14, range 1, west of the Fourth meridian. This flow is not under control, as the casing is in such a defective condition that the well cannot be capped. The company have notified the department that they will take steps to put the well in proper condition.

The Community Oil Wells, Limited, have been drilling a well on L.S. 7, section 19, township 14, range 1, west of the Fourth meridian. A depth of 2,315 feet has been attained. At this depth the well was working in Colorado formation. The hole has been drilled with a rotary equipment, but it is intended to replace this type of machinery with cable tools in order to continue the hole to a depth of some 3,000 feet.

Coutts Sweetgrass District.—The successful development of the Montana Sweetgrass oil field about twelve miles south of the Alberta boundary stimulated prospecting on the Canadian side of the border. Seven bore holes were commenced in township 1, with the greatest concentration in range 15, which is immediately north of the Montana oil field. Only one of these wells has penetrated the horizon in which the oil is found in the Montana field. At this one location a very good showing of a good grade of oil was found, but as water came into the hole the actual amount of oil was not determined.

Pakowki Lake District.—The Sanctuary Oil Company are drilling on an island in Pakowki lake in L.S. 10 of section 10, township 5, range 8, west of the Fourth meridian. The well is now down into the Colorado formation.

Saskatchewan

The Consul well of the Northwest Company which is located on section 9, township 1, range 27, west of the Third meridian, was abandoned during the year, as was also their Unity well on section 7, township 39, range 22, west of the Third meridian. No new drilling was undertaken in Saskatchewan during the year.

British Columbia

Only one company reported active drilling operations on the Fraser delta in the vicinity of Vancouver. The activity in this area seems to have declined considerably.

Northwest Territories

Recent information from the north would seem to indicate that the Discovery well drilled by the Imperial Oil Company, in the vicinity of Fort Norman, has been greatly improved by deeper drilling. The Sub-Mining Recorder reports that the well is capable of producing at the rate of 100 barrels per day, and that there is a gauge pressure of 250 pounds on the well. The depth of the hole is 991 feet. Drilling at the other camps of the Imperial Oil Company has been very slow and backward due to the great difficulties encountered in carrying out drilling operations in the far north.

The White Beaver Oil Company carried out drilling operations on Hay river, in the Great Slave Lake district, and after reaching a depth of 712 feet, where a heavy flow of salt water was struck, the well was abandoned. No oil or gas was found at this location.

Mudding and Cementing Operations

There was no work done during the year with the mudding and cementing equipment. The pumps and other equipment have been held at Peace River in anticipation of work continuing on the defective wells in that field.

Yukon Territory

GEO. P. MACKENZIE, DAWSON, YUKON TERRITORY—GOLD COMMISSIONER

Agriculture.—The farmers had a fairly successful year. The potato crop, however, was not up to the average. Stock raising is receiving more attention, and the local supply of beef thus made available is bringing a higher price on the market than that brought in from outside. A number of farmers are trying sheep-raising and appear to be satisfied with the result. Each year sees an increase of the quantity of fodder grown, brome grass being the most satisfactory hay.

Wood and Timber.—One hundred and twenty-five permits to cut wood and timber were issued during the year. The quantity of saw-timber cut under permits during the year on which dues were paid was 490,410 feet board measure. The quantity of cordwood cut under authority of permits during the year was 16,631 cords. Cordwood cut without authority of permit on which seizure dues were paid amounted to 66 cords. Seizure dues were also paid on 54,850 linear feet of building logs, and 53,750 feet board measure of timber. The quantity of cordwood cut on timber berths on which dues were paid was 3,585 cords.

Yukon Council.—The annual session of the council was held in May. Certain minor amendments were made to the existing ordinances but no new legislation of importance was enacted. As by law, it was necessary to elect a new council, the election was held on August 11, 1922, the following members being returned: for Dawson, William Kenneth Currie; for Whitehorse, Robert Lowe; for Klondike, John Emmett Farrell.

Hospitals and Public Health.—The health of the people generally has been good, no epidemics having occurred. St. Mary's Hospital continues to meet all requirements in the portion of the territory adjacent to Dawson, and the General Hospital at Whitehorse those of the southern end of the territory. The demand, however, for hospital accommodation at Mayo was so insistent that a hospital was built at that point and was ready to receive patients on October 1. The cost of erecting this hospital was a very serious drain on the slender resources of the territory, but from reports received splendid service has been given during the past winter.

Education.—The usual public and high schools were maintained at Dawson and Whitehorse, also a public school at Mayo. In all probability it will be necessary to open additional schools next year at other centres throughout the territory.

Through the efforts of the Bishop of Yukon, Dr. Stringer, a hostel was opened at Dawson for the half-breed children throughout the territory. This hostel is maintained by private funds and the children attend the public school at Dawson.

Game.—Reports received from officers of the Royal Canadian Mounted Police, who are game guardians, and others qualified to know, show that game generally throughout the territory is plentiful. Reports indicate, however, that wolves are very numerous in many places, and are destroying much game. A number of big game hunters were in the territory during the past year and generally expressed themselves as being satisfied with the results of their hunts.

Law and Order.—Order has been well maintained throughout the territory during the year. The Royal Canadian Mounted Police have made frequent patrols to outlying creeks.

REPORT OF THE DEPARTMENT

OF

IMMIGRATION AND COLONIZATION

FOR THE

FISCAL YEAR ENDED MARCH 31, 1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to lay before Your Excellency the report of the transactions of the Department of Immigration and Colonization for the fiscal year ended March 31, 1923.

Respectfully submitted,

CHARLES STEWART,
Acting Minister of Immigration and Colonization.

OTTAWA.

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REPORT

OF THE

DEPARTMENT OF IMMIGRATION AND COLONIZATION

1922-23

DEPUTY MINISTER, W. J. BLACK

This, the sixth annual report of the department, shows a decrease of immigration as compared with that of the preceding year, of 19 per cent.

The following table is a comparative statement of immigrant arrivals from 1881 onward:—

IMMIGRATION AND COLONIZATION

Period	From British Isles	From United States	From other Countries	Totals
Calendar year 1881	17,033	21,822	9,136	47,991
" 1882	41,283	58,372	12,803	112,458
" 1883	45,439	78,508	9,677	133,624
" 1884	31,787	65,886	6,151	103,824
" 1885	18,591	57,506	3,072	79,169
" 1886	23,507	40,650	4,995	69,152
" 1887	31,104	41,046	12,376	84,526
" 1888	30,852	44,952	12,962	88,766
" 1889	19,384	67,896	4,320	91,600
" 1890	21,793	50,336	2,938	75,067
" 1891	22,042	52,516	7,607	82,165
" 1892	22,636	.....	8,360	30,996
" 1893	20,071	.....	9,562	29,633
" 1894	16,004	.....	4,825	20,829
" 1895	14,956	.....	3,834	18,790
" 1896	12,384	.....	4,451	16,835
" 1897	11,383	2,412	7,921	21,716
" 1898	11,173	9,119	11,608	31,900
" 1899	10,660	11,945	21,938	44,543
Sx months ended June 30, 1900	5,141	8,543	10,211	23,895
Fiscal year ended June 30, 1901	11,810	17,987	19,352	49,149
" " 1902	17,259	26,388	23,732	67,379
" " 1903	41,792	49,473	37,099	128,364
" " 1904	50,374	45,171	34,786	130,331
" " 1905	65,359	43,543	37,364	146,266
" " 1906	86,796	57,796	44,472	189,064
Nine months ended March 31, 1907	55,791	34,659	34,217	124,667
Fiscal year ended March 31, 1908	120,182	58,312	83,975	262,469
" " 1909	52,901	59,832	34,175	146,908
" " 1910	59,790	103,798	45,206	208,794
" " 1911	123,013	121,451	66,620	311,084
" " 1912	138,121	133,710	82,406	354,237
" " 1913	150,542	139,009	112,881	402,432
" " 1914	142,622	107,530	134,726	384,878
" " 1915	43,276	59,779	41,734	144,789
" " 1916	8,664	36,937	2,936	48,537
" " 1917	8,282	61,389	5,703	75,374
" " 1918	3,178	71,314	4,582	79,074
" " 1919	9,914	40,715	7,073	57,702
" " 1920	59,603	49,656	8,077	117,336
" " 1921	74,262	48,059	26,156	148,477
" " 1922	39,020	29,345	21,634	89,999
" " 1923	34,508	22,007	16,372	72,887

BRITISH IMMIGRATION

During the fiscal year 1922-23, the number of British immigrant arrivals in Canada was 34,508, as compared with 39,020 in the preceding year, a decrease of 12 per cent.

IMMIGRATION FROM THE UNITED STATES

The total number of immigrants who arrived from the United States, during last fiscal year, was 22,007, as against 29,345 in the previous year, a decrease of 25 per cent.

IMMIGRATION FROM OTHER COUNTRIES

The total immigration from other countries was 16,372; during the preceding year the figures were 21,634. The decrease from this source is 20 per cent.

TOTAL IMMIGRATION

Immigration from all sources totals 72,887; for the year 1921-22, the entire immigration was 89,999. The figures show a decrease of 19 per cent.

IMMIGRATION INSPECTION

Three reports dealing with immigration inspection are included, and with reference to border ports it may be stated that in the Eastern Division, extending from the Atlantic coast to Port Arthur, 23,535 persons sought admission to Canada as immigrants, and that of this number 12,203 were rejected by our Inspectors. This very large percentage, 52, indicates the vigilance of those officers. In the Western Division stretching from Port Arthur to Kingsgate, 9,692 people of the immigrant class applied for admission to Canada, of whom 854 were rejected, nearly 9 per cent. In the Pacific Division, including border ports from Kingsgate westward and Pacific coast ports, 2,707 immigrants presented themselves for admission, and 870 were rejected; this number is 32 per cent.

JUVENILE IMMIGRATION

The usual report of British immigrant children unaccompanied by parents or guardians is included, and it will be noted that the high standard of efficiency which always characterized this important branch of immigration work has been fully maintained.

PUBLICITY

Publicity work, in Ottawa and Winnipeg, is conducted with undiminished vigour, and two reports are included, which, as in three previous years, greatly add to the interest of this publication.

ORIENTAL IMMIGRATION

In 1921-22, Chinese immigration was 1,746, and during last fiscal year only 711, a decrease of 59 per cent. Immigration from Japan decreased, during the same period, from 532 to 369, 31 per cent. Hindoo immigration is still very small, only 21 having arrived last fiscal year.

REPORT OF THE ASSISTANT DEPUTY MINISTER, W. D. SCOTT

Summary for the Fiscal Year 1922-23

Per ocean travel—				
Quebec				31,717
St. John				8,580
Halifax				5,039
North Sydney				1,426
Vancouver				797
Victoria				614
Montreal				171
Sydney				69
New York	2,430			
Boston	37	2,467		50,880
From the United States				22,007
Total				72,887

Comparative Statement.—Immigration to Canada, via Ocean Ports, by months, for the Fiscal Year 1922-23, compared with that of the Fiscal Year 1921-22.

	1921-22				1922-23			
	Males	Females	Children	Totals	Males	Females	Children	Totals
April	4,620	3,432	1,965	10,017	1,785	1,031	514	3,330
May	4,143	4,051	2,239	10,433	3,569	3,101	1,663	8,333
June	3,495	3,695	2,001	9,191	2,112	1,965	927	5,004
July	2,269	2,472	1,325	6,066	2,272	2,220	1,241	5,733
August	1,817	2,387	1,267	5,471	1,550	1,663	856	4,069
September	1,657	2,282	1,320	5,259	1,689	2,007	1,126	4,822
October	1,209	1,851	986	4,046	1,870	1,814	895	4,579
November	835	1,330	648	2,813	1,286	1,151	535	2,972
December	672	819	442	1,933	1,002	868	553	2,423
January	550	555	337	1,442	877	672	411	1,960
February	502	428	175	1,105	1,336	804	428	2,568
March	1,376	1,031	471	2,878	3,042	1,315	730	5,087
Tota.s	23,145	24,333	13,176	60,654	22,390	18,611	9,879	50,880

Comparative Statement.—Immigration from the United States to Canada, by months, for the Fiscal Year 1922-23, compared with that of the Fiscal Year 1921-22.

	1921–22				1922-23			
	Males	Females	Children	Totals	Males	Females	Children	Totals
April	2,762	1,230	1,043	5,035	1,706	820	742	3,268
May	1,999	936	775	3,710	1,418	827	621	2,866
June	1,539	850	697	3,086	1,008	703	580	2,291
July	1,250	637	501	2,388	927	622	475	2,024
August	1,810	681	525	3,016	1,547	590	422	2,559
September	1,179	560	429	2,168	1,120	507	405	2,032
October	1,020	615	494	2,129	764	508	469	1,741
November	757	526	464	1,747	517	407	335	1,259
December	611	415	289	1,315	414	286	242	942
January	516	289	198	1,003	331	206	105	642
February	603	292	183	1,078	348	219	155	722
March	1,406	678	586	2,670	796	450	415	1,661
Totals	15,452	7,709	6,184	29,345	10,896	6,145	4,966	22,007

COMPARATIVE STATEMENT.—Total Immigration to Canada, by months, for the Fiscal Year 1922-23, compared with that of the Fiscal Year 1921-22.

	1921-22				1922-23			
	Males	Females	Children	Totals	Males	Females	Children	Totals
April	7,382	4,662	3,008	15,052	3,491	1,851	1,256	6,598
May	6,142	4,987	3,014	14,143	4,987	3,928	2,284	11,199
June	5,034	4,545	2,698	12,277	3,120	2,668	1,507	7,295
July	3,519	3,109	1,826	8,454	3,199	2,842	1,716	7,757
August	3,627	3,068	1,792	8,487	3,097	2,253	1,278	6,628
September	2,836	2,842	1,749	7,427	2,809	2,514	1,531	6,854
October	2,229	2,466	1,480	6,175	2,634	2,322	1,364	6,320
November	1,592	1,856	1,112	4,560	1,803	1,558	870	4,231
December	1,283	1,234	731	3,248	1,416	1,154	795	3,365
January	1,066	844	535	2,445	1,208	878	516	2,602
February	1,105	720	358	2,183	1,684	1,023	583	3,290
March	2,782	1,709	1,057	5,548	3,838	1,765	1,145	6,748
Totals	38,597	32,042	19,360	89,999	33,286	24,756	14,845	72,887

COMPARATIVE STATEMENT.—Total Immigration to Canada, by Ports, for the Fiscal Year 1922-23, compared with that of the Fiscal Year 1921-22.

	1921-22				1922-23			
	Males	Females	Children	Totals	Males	Females	Children	Totals
Quebec	14,360	17,330	9,040	40,730	12,617	12,667	6,433	31,717
St. John	3,603	3,077	1,638	8,318	4,564	2,627	1,389	8,580
Halifax	3,012	2,636	1,471	7,119	2,513	1,640	886	5,039
North Sydney	72	141	105	318	860	353	213	1,426
Vancouver	849	169	430	1,448	336	125	336	797
Victoria	507	330	183	1,020	208	229	177	614
Montreal	.....	.....	.....	.....	92	55	24	171
Sydney	.....	.....	.....	.....	53	10	6	69
United States ports (New York, Boston)	742	650	309	1,701	1,147	905	415	2,467
From the United States	15,452	7,709	6,184	29,345	10,896	6,145	4,966	22,007
Totals	38,597	32,042	19,360	89,999	33,286	24,756	14,845	72,887

SEX.—Occupation and Destination of Total Immigrant Arrivals in Canada, for the Fiscal Year ended March 31, 1923.

——	Via ocean ports	From the United States	Totals
Sex—			
Males	22,390	10,896	33,286
Females	18,611	6,145	24,756
Children	9,879	4,966	14,845
Totals	50,880	22,007	72,887
Trade or occupation—			
Farmers and farm labourers—			
Males	11,370	6,380	17,750
Females	2,536	2,070	4,606
Children	2,242	2,544	4,786
General Labourers—			
Males	2,675	884	3,559
Females	388	229	617
Children	344	169	513
Mechanics—			
Males	4,158	1,382	5,540
Females	1,293	386	1,679
Children	836	351	1,187
Traders, etc.—			
Males	1,003	688	1,691
Females	651	315	966
Children	237	181	418
Miners—			
Males	920	175	1,095
Females	111	30	141
Children	142	25	167
Female servants	6,273	701	6,974
Not classified—			
Males	2,264	1,387	3,651
Females	7,359	2,414	9,773
Children	6,078	1,696	7,774
Destination—			
Nova Scotia	1,878	289	2,167
New Brunswick	458	558	1,016
Prince Edward Island	32	83	115
Quebec	6,163	3,180	9,343
Ontario	24,417	6,027	30,444
Manitoba	4,580	1,457	6,037
Saskatchewan	4,413	3,773	8,186
Alberta	4,113	4,685	8,798
British Columbia	4,819	1,833	6,652
Yukon Territory	7	122	129

COMPARATIVE STATEMENT.—Total Immigration to Canada, by Nationalities, for the Fiscal Year 1922-23, compared with that of the Fiscal Year 1921-22, showing Increase or Decrease of each Nationality.

——	1921–22	1922–23	Increase	Decrease
English	23,225	19,188	.....	4,037
Irish	3,572	3,668	96	.....
Scotch	11,596	11,071	.....	525
Welsh	627	581	.....	46
Total British	39,020	34,508	.....	4,512
African, South	32	41	9	.....
Albanian	6	1	.....	5
Arabian	5	2	.....	3
Argentinian	.....	4	4	.....
Armenian	70	59	.....	11
Australian	76	67	.....	9
Austrian	14	23	9	.....
Belgian	503	316	.....	187
Bermudian	2	7	5	.....
Bulgarian	27	19	.....	8
Chinese	1,746	711	.....	1,035
Czecho-Slovak	152	101	.....	51
Dutch	183	119	.....	64
Egyptian	2	.....	.....	2
Esthonian	.....	12	12	.....
Finnish	274	1,171	897	.....
French	332	281	.....	51
German	178	216	38	.....
Greek	209	177	.....	32
Hebrew—				
Hebrew, N.E.S	2,336	659	.....	1,677
" Austrian	1	1	.....	.....
" German	.....	1	1	.....
" Polish	5,216	1,379	.....	3,837
" Russian	851	753	.....	98
Hindoo	13	21	8	.....
Hungarian	48	23	.....	25
Italian	2,413	2,074	.....	339
Jamaican	13	30	17	.....
Japanese	471	369	.....	102
Jugo-Slav	180	136	.....	44
Latvian	.....	1	1	.....
Lithuanian	19	106	87	.....
Luxemburg	5	3	.....	2
Maltese	34	57	23	.....
Negro	42	42	.....	.....
Newfoundland	367	1,552	1,185	.....
New Zealand	25	33	8	.....
Persian	9	1	.....	8
Polish	2,707	2,921	214	.....
Portuguese	.....	2	2	.....
Roumanian	759	427	.....	332
Russian	321	222	.....	99
Scandiavian—				
Danish	541	382	.....	159
Icelandic	31	21	.....	10
Norwegian	480	507	27	.....
Swedish	442	948	506	.....
Spanish	6	15	9	.....
Swiss	187	152	.....	35
Syrian	123	91	.....	32
Turkish	3	3	.....	.....
Ukrainian	89	36	.....	53
U.S.A. Citizens, via ocean ports	67	32	.....	35
Venezuelan	.....	1	1	.....
West Indian	24	44	20	.....
Total Continental, etc	21,634	16,372	.....	5,262
From the United States	29,345	22,007	.....	7,338
Total immigration	89,999	72,887	.....	17,112

Arrivals at Ocean Ports

During the fiscal year 1922-23, there arrived via Canadian and United States ocean ports 106,928 passengers, of whom 7,092 travelled saloon and 99,836 steerage. Included in the steerage passengers were 36,502 returned Canadians and 12,454 tourists, leaving the immigration proper at 50,880 souls, which together with the 22,007 settlers from the United States, brings the total immigration to 72,887, a decrease, as compared with that of the preceding year, of 17,112 persons.

The following further statistical information will be of interest: table I deals with arrivals of saloon passengers; table II with arrivals of steerage passengers; table III with the monthly arrivals of immigrants; and tables IV and V give summaries of information obtained from immigrants upon arrival.

Table I.—Statement showing Arrivals of Saloon Passengers, at Ocean Ports, during the Fiscal Year ended March 31, 1923.

—	Males	Females	Children	Totals
Returned Canadians	2,270	1,984	254	4,508
Tourists	1,383	1,019	182	2,584
Totals	3,653	3,003	436	7,092

Table II.—Nationality and Sex of Steerage Passengers, arriving at Ocean Ports, during the Fiscal Year ended March 31, 1923.

—	Males	Females	Children	Totals
African, South	17	10	14	41
Albanian	1			1
Arabian	2			2
Argentinian		1	3	4
Armenian	14	39	6	59
Australian	21	21	25	67
Austrian	5	15	3	23
Belgian	131	135	50	316
Bermudian	1	2	4	7
Bulgarian	5	10	4	19
Chinese	232	59	420	711
Czecho-Slovak	63	33	5	101
Dutch	71	40	8	119
Esthonian	5	5	2	12
Finnish	965	170	36	1,171
French	105	138	38	281
German	60	122	34	216
Great Britain and Ireland—				
English	8,059	7,078	4,051	19,188
Irish	1,726	1,348	594	3,668
Scotch	4,651	4,427	1,993	11,071
Welsh	282	191	108	581
Greek	52	107	18	177
Hebrew—				
Hebrew, N.E.S	243	253	163	659
" Austrian		1		1
" German	1			1
" Polish	381	612	386	1,379
" Russian	171	357	225	753
Hindoo	12	5	4	21
Hungarian	6	13	4	23
Italian	1,221	530	323	2,074
Jamaican	6	20	4	30
Japanese	141	197	31	369
Jugo-Slav	55	53	28	136
Latvian	1			1
Lithuanian	49	36	21	106
Luxemburg	2	1		3

TABLE II.—Nationality and Sex of Steerage Passengers, arriving at Ocean Ports, during the Fiscal Year ended March 31, 1923.—*Concluded.*

—	Males	Females	Children	Totals
Maltese	34	13	10	57
Negro	2	37	3	42
Newfoundland	934	395	223	1,552
New Zealand	15	9	9	33
Persian	1	.....	.....	1
Polish	956	1,367	598	2,921
Portuguese	2	.....	.....	2
Roumanian	125	199	103	427
Russian	72	95	55	222
Scandinavian—				
Danish	281	62	39	382
Icelandic	10	8	3	21
Norwegian	339	97	71	507
Swedish	703	148	97	948
Spanish	5	8	2	15
Swiss	87	51	14	152
Syrian	26	46	19	91
Turkish	1	2	.....	3
Ukrainian	16	15	5	36
U.S.A. Citizens	11	5	16	32
Venezuelan	1	.....	.....	1
West Indian	12	25	7	44
Total immigration	22,390	18,611	9,879	50,880
Returned Canadians	16,287	13,766	6,449	36,502
Tourists	6,920	4,615	919	12,454
Totals	45,597	36,992	17,247	99,836

TABLE III.—Monthly Arrivals of Immigrants, by Nationalities, at Ocean Ports, during the Fiscal Year ended March 31, 1923

—	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Totals
African, South	.....	3	10	.....	4	2	7	.....	2	2	6	5	41
Albanian	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Arabian	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2
Argentinian	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Armenian	3	4	8	1	6	.....	2	.....	1	10	7	17	59
Australian	7	7	5	14	5	6	5	4	2	.....	2	10	67
Austrian	.....	1	1	4	.....	1	6	1	1	5	3	.....	23
Belgian	29	73	31	35	18	7	22	22	9	1	26	43	316
Bermudian	.....	.....	.....	3	2	.....	2	.....	.....	.....	.....	.....	7
Bulgarian	1	.....	.....	1	5	2	2	.....	3	3	1	1	19
Chinese	56	74	102	60	27	26	66	48	108	67	36	41	711
Czecho-Slovak	7	16	16	17	6	8	9	3	8	2	5	4	101
Dutch	11	22	11	20	5	9	8	4	7	.....	4	18	119
Esthonian	1	.....	.....	1	.....	7	1	.....	2	.....	.....	.....	12
Finnish	14	18	34	33	50	91	120	109	149	105	234	214	1,171
French	47	39	23	33	41	34	18	18	7	4	9	8	281
German	13	7	5	17	24	28	26	33	14	2	21	26	216
Great Britain and Ireland—													
English	1,291	3,422	1,959	2,503	1,525	2,115	1,743	931	668	518	659	1,854	19,188
Irish	205	626	486	402	308	397	321	157	120	86	162	398	3,668
Scotch	473	1,820	1,160	1,351	956	932	1,104	605	456	447	512	1,255	11,071
Welsh	79	104	70	49	44	64	44	16	19	6	23	63	581
Greek	29	11	11	23	22	15	10	15	10	18	9	4	177
Hebrew—													
Hebrew, N.E.S.	42	182	89	78	29	45	46	29	33	21	27	38	659
" Austrian	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
" German	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
" Polish	155	196	124	187	101	122	93	59	112	66	87	77	1,379
" Russian	38	32	49	44	33	111	68	37	100	110	75	56	753
Hindoo	12	.....	.....	1	1	1	2	2	.....	.....	1	1	21
Hungarian	1	1	2	2	2	6	1	1	3	.....	1	3	23

TABLE III.—Monthly Arrivals of Immigrants, by Nationalities, at Ocean Ports, during the Fiscal Year ended March 31, 1923.—*Concluded.*

—	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Totals
Italian	306	735	108	60	102	81	117	96	113	93	123	140	2,074
Jamaican	5	9	3	4	2	.....	2	4	.....	1	.....	.....	30
Japanese	57	50	52	19	33	19	19	15	16	18	17	54	369
Jugo-Slav	9	7	3	4	12	15	26	21	20	13	3	3	136
Latvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Lithuanian	2	29	28	18	16	4	1	1	1	.....	.....	6	106
Luxemburg	.....	1	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	3
Maltese	1	8	2	2	24	8	1	4	.....	6	1	.....	57
Negro	2	5	5	10	6	11	2	1	.....	.....	.....	.....	42
Newfoundland	24	50	58	39	137	294	254	380	120	121	31	44	1,552
New Zealand	1	9	4	9	3	3	1	.....	2	.....	.....	1	33
Persian	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Polish	179	386	286	436	242	181	283	171	167	152	255	183	2,921
Portuguese	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2
Roumanian	37	64	57	47	13	29	21	52	35	14	44	14	427
Russian	11	6	15	25	19	9	5	30	17	13	31	41	222
Scandinavian—													
Danish	51	53	28	25	31	24	24	9	14	6	41	76	382
Icelandic	1	.....	3	5	8	.....	3	1	.....	.....	.....	.....	21
Norwegian	34	98	57	47	68	49	25	22	8	5	10	84	507
Swedish	59	112	72	71	103	41	46	41	47	31	79	246	948
Spanish	1	3	3	1	2	.....	1	3	1	.....	.....	.....	15
Swiss	18	17	14	16	3	11	3	5	5	1	4	55	152
Syrian	13	10	4	8	8	2	4	10	11	11	9	1	91
Turkish	.....	.....	.....	.....	1	.....	.....	1	.....	1	.....	.....	3
Ukrainian	.....	.....	2	.....	8	4	4	7	4	1	5	1	36
U.S.A. Citizens	3	9	.....	2	2	5	3	.....	6	.....	1	1	32
Venezuelan	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
West Indian	2	8	4	6	7	3	8	1	1	.....	4	.....	44
Totals	3,330	8,333	5,004	5,733	4,069	4,822	4,579	2,972	2,423	1,960	2,568	5,087	50,880

TABLE IV.—Monthly Arrivals of Immigrants, by Occupation and Destination, at Ocean Ports, during the Fiscal Year ended March 31, 1923

—	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Totals
Agriculturists	1,467	3,129	1,789	1,856	1,144	1,225	917	551	568	497	911	2,094	16,148
General labourers	223	529	199	308	222	329	317	334	239	194	163	350	3,407
Mechanics	347	883	607	624	455	507	585	385	274	269	432	919	6,287
Clerks, traders, etc	94	272	149	190	155	186	164	102	92	95	129	263	1,891
Miners	34	75	38	81	76	74	273	95	93	74	93	167	1,173
Female servants	282	1,065	620	691	502	695	649	467	314	215	277	496	6,273
Not classified	883	2,380	1,602	1,983	1,515	1,806	1,674	1,038	843	616	563	798	15,701
Totals	3,330	8,333	5,004	5,733	4,069	4,822	4,579	2,972	2,423	1,960	2,568	5,087	50,880
Nova Scotia	102	143	111	82	129	268	253	299	154	148	63	126	1,878
New Brunswick	63	43	20	57	44	47	22	25	17	25	46	49	458
Prince Edward Island	2	.....	6	6	6	9	1	2	.....	.....	.....	.....	32
Quebec	357	1,154	534	666	466	584	644	443	332	235	323	425	6,163
Ontario	1,340	3,825	2,344	2,806	1,957	2,476	2,288	1,378	1,166	924	1,275	2,638	24,417
Manitoba	348	876	563	596	367	378	330	155	164	161	217	425	4,580
Saskatchewan	467	699	495	532	378	328	274	186	182	132	178	562	4,413
Alberta	326	763	404	479	366	298	318	212	183	135	210	419	4,113
British Columbia	325	830	527	508	356	433	445	271	225	200	256	443	4,819
Yukon Territory	.....	.....	.....	1	.....	1	4	1	.....	.....	.....	.....	7
Totals	3,330	8,333	5,004	5,733	4,069	4,822	4,579	2,972	2,423	1,960	2,568	5,087	50,880

TABLE V.—Nationality, Sex, Occupation and Destination of Immigrant

—	Sex				Trade or								
					Farming Class			Labouring Class			Mechanics		
	Males	Females	Children	Totals	Males	Females	Children	Males	Females	Children	Males	Females	Children
African, South	17	10	14	41	9	3	.....	.....	.....	.....	6	.....	.....
Albanian	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arabian	2	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Argentinian	.....	1	3	4	.....	1	3	.....	.....	.....	.....	.....	.....
Armenian	14	39	6	59	2	3	.....	3	1	3	3	2	1
Australian	21	21	25	67	5	.....	.....	.....	.....	1	2	1	.....
Austrian	5	15	3	23	5	2	1	.....	.....	.....	.....	.....	.....
Belgian	131	135	50	316	101	37	20	3	.....	.....	15	8	3
Bermudian	1	2	4	7	.....	.....	.....	.....	.....	.....	1	.....	.....
Bulgarian	5	10	4	19	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chinese	232	59	420	711	.....	.....	.....	8	.....	.....	.....	.....	.....
Czecho-Slovak	63	33	5	101	52	11	1	4	.....	.....	4	.....	.....
Dutch	71	40	8	119	62	14	2	4	1	2	1	.....	.....
Esthonian	5	5	2	12	4	3	2	1	1	.....	.....	.....	.....
Finnish	965	170	36	1,171	914	43	18	28	1	.....	13	1	1
French	105	138	38	281	42	15	4	14	3	2	12	5	2
German	60	122	34	216	45	21	15	4	1	2	4	5	2
Great Britain and Ireland—													
English	8,059	7,078	4,051	19,188	4,017	912	1,110	578	139	149	1,714	630	443
Irish	1,726	1,348	594	3,668	991	130	141	152	15	18	288	54	37
Scotch	4,651	4,427	1,993	11,071	1,455	268	302	497	74	81	1,642	378	245
Welsh	282	191	108	581	166	24	19	13	1	3	43	5	17
Greek	52	107	18	177	21	1	1	6	1	.....	6	2	.....
Hebrew—													
Hebrew, N.E.S.	243	253	163	659	68	26	30	25	7	8	52	40	18
" Austrian	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
" German	1	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....
" Polish	381	612	386	1,379	148	42	35	27	7	9	104	62	21
" Russian	171	357	225	753	63	53	33	10	3	3	26	26	10
Hindoo	12	5	4	21	3	.....	.....	2	.....	.....	.....	.....	.....
Hungarian	6	13	4	23	6	3	1	.....	.....	.....	.....	.....	.....
Italian	1,221	530	323	2,074	644	40	11	431	32	12	89	24	5
Jamaican	6	20	4	30	1	.....	.....	.....	.....	.....	1	1	1
Japanese	141	197	31	369	73	35	1	26	34	5	2	9	.....
Jugo-Slav	55	53	28	136	42	17	16	9	.....	.....	.....	.....	.....
Latvian	1	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Lithuanian	49	36	21	106	35	21	15	9	6	4	1	.....	.....
Luxemburg	2	1	.....	3	1	1	.....	.....	.....	.....	1	.....	.....
Maltese	34	13	10	57	20	.....	.....	5	1	.....	6	2	.....
Negro	2	37	3	42	.....	.....	.....	.....	.....	.....	.....	2	.....
Newfoundland	934	395	223	1,552	10	2	3	711	15	17	64	13	21
New Zealand	15	9	9	33	5	1	2	1	.....	.....	2	1	4
Persian	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Polish	956	1,367	598	2,921	847	584	251	43	38	22	18	15	2
Portuguese	2	.....	.....	2	.....	.....	.....	1	.....	.....	.....	.....	.....
Roumanian	125	199	103	427	102	61	23	11	3	1	5	2	.....
Russian	72	95	55	222	61	40	28	2	3	1	1	1	1
Scandinavian—													
Danish	281	62	39	382	261	17	22	3	.....	.....	3	.....	.....
Icelandic	10	8	3	21	10	3	1	.....	.....	.....	.....	.....	1
Norwegian	339	97	71	507	301	36	57	16	.....	.....	9	1	1
Swedish	703	148	97	948	669	41	59	19	.....	.....	7	1	.....
Spanish	5	8	2	15	1	.....	.....	2	.....	.....	1	1	.....
Swiss	87	51	14	152	70	14	10	3	.....	.....	3	.....	.....
Syrian	26	46	19	91	14	4	1	.....	.....	.....	2	.....	.....
Turkish	1	2	.....	3	.....	.....	.....	.....	.....	.....	1	.....	.....
Ukrainian	16	15	5	36	13	7	2	2	1	1	.....	.....	.....
U.S.A. Citizens	11	5	16	32	5	.....	2	1	.....	.....	3	.....	.....
Venezuelan	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Indian	12	25	7	44	5	.....	.....	.....	.....	.....	3	1	.....
Totals	22,390	18,611	9,879	50,880	11,370	2,536	2,242	2,675	388	344	4,158	1,293	836

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Arrivals, at Ocean Ports, during the Fiscal Year ended March 31, 1923

Occupation										Destination									
Trading Class			Mining Class				Unclassified												
Males	Females	Children	Males	Females	Children	Female Servants	Males	Females	Children	Nova Scotia	New Brunswick	Prince Edward Island	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon Territory
.....	1	1	....	....	....	1	2	5	13	.....	4	....	10	10	3	.....	9	5	....
1	.....	....	.....	....	....	.....	.....	.....	.....	.....	....	....	.....	1	.....	.....	.....	.....	....
1	.....	....	.....	....	....	.....	1	.....	.....	.....	....	....	2	.....	.....	.....	.....	.....	....
.....	.....	....	.....	....	....	.....	.....	.....	.....	.....	....	....	.....	.....	.....	.....	.....	4	....
.....	1	....	.....	....	....	9	6	23	2	5	....	....	2	51	.....	1	.....	.....	....
4	2	....	3	1	....	4	7	13	24	1	....	....	9	20	4	.....	3	30	....
.....	.....	....	.....	....	....	2	.....	11	2	1	....	....	.....	1	.....	17	2	2	....
1	1	....	.....	....	....	28	11	61	27	.....	3	....	61	127	58	48	9	10	....
.....	.....	....	.....	....	....	.....	.....	2	4	2	3	....	2	.....	.....	.....	.....	.....	....
.....	.....	....	.....	....	....	2	5	8	4	.....	....	....	1	12	.....	6	.....	.....	....
31	20	30	.....	....	....	.....	193	39	390	3	2	....	64	142	27	82	65	326	....
1	.....	....	.....	....	....	9	2	13	4	1	....	....	24	25	5	23	17	6	....
2	.....	....	.....	....	....	11	2	14	4	.....	....	....	9	40	20	7	37	6	....
.....	.....	....	.....	....	....	.....	.....	1	.....	.....	....	....	.....	3	.....	.....	8	1	....
1	.....	....	1	....	....	94	8	31	17	.....	3	....	33	978	12	18	49	78	....
2	2	....	.....	....	1	22	35	91	29	34	10	....	113	49	27	25	17	6	....
1	1	....	.....	....	....	48	6	46	15	.....	....	....	13	36	14	81	65	7	....
368	271	97	476	54	56	2,129	906	2,943	2,196	405	187	17	1,825	10,441	1,439	1,608	1,412	1,848	6
113	82	38	25	1	....	542	157	524	360	25	23	....	465	2,064	346	268	237	240	....
320	203	42	316	49	76	1,967	421	1,488	1,247	187	89	5	1,168	5,958	993	721	795	1,154	1
9	6	3	25	2	4	62	26	91	62	13	2	....	54	269	54	55	87	47	....
5	1	....	.....	....	....	37	14	65	17	2	....	....	32	112	5	9	5	12	....
32	8	5	.....	....	....	63	66	109	102	7	3	....	310	206	71	36	17	9	....
.....	.....	....	.....	....	....	.....	.....	1	.....	.....	....	....	.....	.....	.....	.....	1	.....	....
.....	.....	....	.....	....	....	.....	.....	.....	.....	.....	....	....	.....	.....	.....	1	.....	.....	....
23	6	1	.....	....	....	199	79	296	320	27	20	....	446	696	92	64	22	12	....
10	15	9	.....	....	....	76	62	184	170	2	7	....	261	174	138	72	75	24	....
.....	.....	....	.....	....	....	.....	7	5	4	.....	....	....	.....	.....	.....	.....	.....	21	....
.....	.....	....	.....	....	....	5	.....	5	3	1	....	....	2	1	1	18	.....	.....	....
17	1	2	16	1	....	61	24	371	293	35	2	....	476	1,142	61	23	153	182	....
1	.....	....	.....	....	....	9	3	10	3	.....	1	....	4	24	.....	.....	1	.....	....
10	5	....	.....	....	....	4	30	110	25	.....	....	....	1	4	.....	1	13	350	....
.....	.....	....	.....	....	....	22	4	14	12	.....	....	....	9	44	9	62	3	9	....
.....	.....	....	.....	....	....	.....	.....	.....	.....	.....	....	....	.....	.....	.....	.....	.....	1	....
.....	.....	....	.....	....	....	6	4	3	2	7	....	....	76	15	5	1	2	.....	....
.....	.....	....	.....	....	....	.....	.....	.....	.....	.....	....	....	1	.....	.....	2	.....	.....	....
.....	.....	....	.....	....	....	.....	3	10	10	.....	....	....	8	49	.....	.....	.....	.....	....
.....	.....	....	.....	....	....	28	2	7	3	8	1	....	20	13	.....	.....	.....	.....	....
26	14	7	54	2	3	163	69	186	172	1,059	56	10	145	273	5	.....	1	3	....
2	2	....	.....	....	....	1	5	4	3	3	....	....	3	7	2	3	2	13	....
.....	.....	....	.....	....	....	.....	1	.....	.....	.....	....	....	.....	1	.....	.....	.....	.....	....
2	.....	....	.....	....	....	421	46	309	323	12	8	....	236	880	781	542	426	36	....
.....	.....	....	.....	....	....	.....	1	.....	.....	.....	....	....	.....	1	.....	.....	.....	1	....
1	.....	....	.....	....	....	57	6	76	79	.....	....	....	42	129	42	104	102	8	....
1	2	1	.....	....	....	15	7	34	24	5	1	....	6	22	50	103	29	6	....
3	.....	....	.....	....	....	22	11	23	17	18	17	....	32	66	80	40	107	22	....
.....	1	....	.....	....	....	1	.....	3	1	1	....	....	.....	.....	13	7	.....	.....	....
3	1	....	1	1	1	38	9	20	12	3	1	....	18	25	43	132	179	106	....
1	.....	....	3	....	1	73	4	33	37	5	3	....	40	213	153	181	136	217	....
1	1	1	.....	....	....	2	.....	4	1	.....	....	....	9	1	1	.....	.....	4	....
5	2	....	.....	....	....	15	6	20	4	.....	5	....	49	23	12	33	20	10	....
3	1	....	.....	....	....	7	7	34	18	2	5	....	51	28	3	1	1	.....	....
.....	.....	....	.....	....	....	2	.....	.....	.....	.....	....	....	.....	3	.....	.....	.....	.....	....
.....	.....	....	.....	....	....	5	1	2	2	.....	....	....	2	8	6	14	5	1	....
1	.....	....	.....	....	....	.....	1	5	14	.....	....	....	14	6	5	4	1	2	....
1	.....	....	.....	....	....	.....	.....	.....	.....	.....	....	....	.....	1	.....	.....	.....	.....	....
.....	1	....	.....	....	....	11	4	12	7	4	2	....	15	23	.....	.....	.....	.....	....
1,003	651	237	920	111	142	6,273	2,264	7,359	6,078	1,878	458	32	6,163	24,417	4,580	4,413	4,113	4,819	7

STATEMENT of Rejections, by Causes and by Nationalities, at Ocean Ports, from 1902-03 to 1922-23

	Fiscal Year																					
	1902-1903	1903-1904	1904-1905	1905-1906	1906-1907[1]	1907-1908	1908-1909	1909-1910	1910-1911	1911-1912	1912-1913	1913-1914	1914-1915	1915-1916	1916-1917	1917-1918	1918-1919	1919-1920	1920-1921	1921-1922	1922-2923	Totals
By Causes																						
Accompanying rejected persons	16	....	13	39	21	58	60	42	104	53	28	76	58	4	8	1	.....	9	13	39	13	655
Alien enemies	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	5	3	12
Bad character	.....	.....	12	1	61	181	87	98	122	112	80	102	56	17	4	11	2	1	9	2	20	978
Contract labour	.....	.....	.....	.....	.....	23	.....	33	28	3	.....	.....	.....	.....	.....	.....	4	1	.....	.....	.....	92
Criminality	.....	.....	1	6	7	17	6	9	10	5	4	3	2	4	.....	1	1	3	14	6	4	103
Head tax	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Lack of funds	.....	.....	.....	1	.....	85	67	34	1,038	246	204	994	452	38	55	19	10	28	255	292	24	3,842
Likely public charges	.....	49	56	73	57	292	66	681	274	164	56	76	71	55	55	19	27	125	236	208	119	2,759
Medical causes	257	225	529	404	264	513	216	585	585	256	328	398	319	34	30	12	19	21	99	60	37	5,191
Not complying with regulations	.....	.....	.....	.....	30	3	7	33	48	119	55	178	40	11	22	8	7	474	291	278	318	1,922
Previously rejected	.....	.....	.....	.....	.....	.....	.....	.....	1	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10
Unskilled and skilled labourers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32	193	94	319
Totals	273	274	611	524	440	1,172	509	1,515	2,210	972	756	1,827	998	163	174	71	70	662	953	1,083	632	15,889
By Nationalities																						
British	2	8	13	76	61	130	146	183	233	227	161	171	169	42	28	5	11	108	193	153	98	2,218
American	.....	.....	27	17	17	63	2	13	20	2	14	12	29	28	15	11	9	8	11	7	4	309
Other countries	271	266	571	431	362	979	361	1,319	1,957	743	581	1,644	800	93	131	55	50	546	749	923	530	13,362
Totals	273	274	611	524	440	1,172	509	1,515	2,210	972	756	1,827	998	163	174	71	70	662	953	1,083	632	15,889

1 Nine months.

Statement of Deportations, after having been admitted, by Causes, Nationalities and Provinces, from 1902-03 to 1922-23

	Fiscal Year																					
	1902-1903	1903-1904	1904-1905	1905-1906	1906-1907[1]	1907-1908	1908-1909	1909-1910	1910-1911	1911-1912	1912-1913	1913-1914	1914-1915	1915-1916	1916-1917	1917-1918	1918-1919	1919-1920	1920-1921	1921-1922	1922-1923	Totals
By Causes																						
Accompanying deported persons	4	3	1	4	35	26	21	.....	18	17	16	10	34	5	9	39	10	18	37	48	52	407
Bad character	.....	1	.....	4	.....	30	71	44	71	120	165	159	128	68	60	84	35	22	52	105	66	1,285
Criminality	.....	1	8	1	12	68	115	130	172	242	334	376	404	329	277	274	236	334	586	630	543	5,072
Medical causes	49	61	58	110	126	392	467	212	222	229	370	570	379	206	98	39	70	123	133	313	282	4,509
Not complying with regulations	.....	.....	.....	.....	.....	.....	.....	.....	12	8	4	4	.....	.....	.....	.....	.....	.....	.....	.....	10	38
Public charges	14	19	19	18	28	309	1,074	348	289	343	392	715	789	635	161	91	103	158	236	950	679	7,370
Totals	67	85	86	137	201	825	1,748	734	784	959	1,281	1,834	1,734	1,243	605	527	454	655	1,044	2,046	1,632	18,681
By Nationalities																						
British	50	69	74	112	168	607	1,235	486	458	540	559	952	877	602	186	36	99	184	295	1,107	888	9,584
American	.....	.....	.....	2	8	37	98	119	169	256	377	405	461	437	324	407	279	392	616	725	520	5,632
Other countries	17	16	12	23	25	181	415	129	157	163	345	477	396	204	95	84	76	79	133	214	224	3,465
Totals	67	85	86	137	201	825	1,748	734	784	959	1,281	1,834	1,734	1,243	605	527	454	655	1,044	2,046	1,632	18,681
By Provinces																						
Maritime Provinces	.....	2	.....	3	2	14	19	24	25	13	45	45	55	48	19	18	22	22	52	74	54	556
Quebec	18	16	11	27	41	136	684	97	165	186	208	371	397	236	108	123	96	118	174	297	277	3,786
Ontario	3	3	8	19	79	383	907	378	349	348	419	574	543	461	233	166	162	247	375	895	587	7,139
Manitoba	—				66	226	48	97	121	174	230	334	199	143	40	59	21	40	66	228	180	—
Saskatchewan	—	46	64	67	88	3	19	27	19	23	35	44	59	85	96	54	37	31	30	52	115	132	—	4,825
Alberta	—					4	24	14	63	55	95	131	164	224	114	34	30	19	57	88	173	138	—	
British Columbia	.....	.....	.....	.....	5	23	49	56	46	108	204	287	228	145	116	91	103	141	237	264	264	2,367
Yukon Territory	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	3	.....	1	3	.....	.....	.....	.....	.....	8
Totals	67	85	86	137	201	825	1,748	734	784	959	1,281	1,834	1,734	1,243	605	527	454	655	1,044	2,046	1,632	18,681

[1] Nine months.

REPORT OF THE CHIEF CONTROLLER OF CHINESE IMMIGRATION, W. D. SCOTT

During the fiscal year 1922-23, 711 persons of Chinese origin entered Canada, of whom 59 were admitted as exempt from head tax, and 652 upon payment of $500 each. The first head tax of $50 was imposed upon Chinese in 1885; this amount was increased to $100 on January 1, 1901, and to $500 on January 1, 1904. This tax has recently been abolished.

For the purpose of comparison, the following table relating to Chinese immigration is given:—

Fiscal Years	Exempts	Paying tax	Percentage of total arrivals admitted exempt	Registered for leave	Total revenue
					$
1912–13	367	7,078	4·93	3,742	3,549,242
1913–14	238	5,274	4·32	4,143	2,644,593
1914–15	103	1,155	8·19	4,373	588,124
1915–16	68	20	77·27	4,064	19,389
1916–17	121	272	30·79	3,312	140,487
1917–18	119	650	15·47	2,907	336,757
1918–19	267	4,066	6·16	3,244	2,609,669
1919–20	181	363	33·27	5,529	538,479
1920–21	1,550	885	63·66	6,807	474,332
1921–22	287	1,459	16·44	7,532	743,032
1922–23	59	652	8·30	6,682	434,557
Totals	3,360	21,874	13·32	52,335	11,538,661

The average of Chinese immigration, per annum, during the eleven years included in the above table was 2,294. For the year 1922-23, the number of arrivals was 711, a decrease as compared with this average of 69 per cent. The revenue derived from Chinese immigration during the period shown in this table amounted to $1,048,969 per annum.

REPORT OF THE SUPERINTENDENT OF EMIGRATION, FOR CANADA, IN LONDON, J. OBED SMITH

I have the honour to submit the following as my report on the work of the European Branch of the Department of Immigration and Colonization for the fiscal year ending March 31, 1923.

I attach hereto the individual report to myself from the various emigration agents, believing they will be of additional interest to the Government of Canada.

The monetary regulations were relaxed during the year owing to improving conditions in Canada and the necessarily increased desire of people to go there, and at the time of this report there is no specified amount of landing money required for emigrants from the British Isles, neither do they require a passport; but, in addition to their Canadian rail transportation, they must have sufficient money to keep themselves until they secure employment, and are subject to the usual medical examination. This has placed British emigration in a less restrictive situation than in any previous year, and is all to the good, inasmuch as Canada seeks insurance against her people being other than of Imperial and British preference, and this she can accomplish by making it possible for those in the cradle of the British Empire to proceed to and successfully settle in the Dominion.

At the same time, it is essential that the needs of individual cases be carefully considered by the officers of the department, and in not a few instances we deemed it advisable to advise certain intending emigrants that a substantial amount should be taken by them.

Trade and employment conditions in Canada at different seasons of the year enforce the obligations of discrimination upon the officers of the department in every case, notwithstanding the general regulation which does not prescribe any fixed amount. Add to this the inevitable fact that seasonal unemployment is perennial in Canada, I am sure you will agree that too great care cannot be taken in giving advice in this matter. Indeed, during the past twelve months, we have been obliged to defer the sailing of many otherwise desirable emigrants because conditions in the labour market in Canada were not as good in fact as some optimists would have us believe. The inexorable law of supply and demand has full play in the emigration field, and we could not be parties to allowing or advising everyone to proceed at certain seasons of the year, even if they could comply literally with the regulations under the Immigration Act. It is very essential that conditions be fully considered in each case, and in view of the tremendous distances in Canada, varying conditions in different areas must always be present.

Our duties in connection with continental emigration were largely lightened during the year by the establishment of an office at Antwerp, with branches elsewhere, but until the last month or two a considerable number of aliens from the continent were passing through ports of the British Isles, requiring inspection and regulation.

The policy of seeking farmers and workers on the land and female household workers has been continued throughout the year.

The movement from Ireland to Canada continues to be very seriously restricted, but we are renewing and extending activities in northern Ireland, and await the opportunity for renewing work in the Irish Free State.

It is marked with great pleasure by our working staff that the Employment Service of our own department is being re-established. This service was based upon the sympathetic ability of agents in Canada to realize the needs of the newcomer, cast about him or her the shield of Government protection, and by wise and sympathetic action guide them over all the primary difficulties of settling in any new land. From this very commendable arrangement it is certain very material and important results will accrue.

I desire to repeat that there should be close and cordial co-operation with every society, institute and individual in Canada who may have sympathy with newcomers, as thereby all would patriotically serve Canada's interests. A real and sustaining welcome should await every desirable immigrant landing in our Dominion.

It is to be noted with special pleasure that the honourable the minister of this department in the Canadian House of Commons stated that the Field Service and Home Section of the Land Settlemen Board of Canada would be available for the assistance of all who wished to settle upon the land, whether they be ex-soldiers or civilians. There has always been much need for supervision of the individual.

EMIGRATION AGENCIES IN THE BRITISH ISLES

There are now twelve Provincial or District Agencies, embracing the whole of Great Britain and Ireland. The Chief Office in London, besides having general oversight, has the largest population of any agency within which to work for Canada.

Eleven of the agencies outside London have been fully engaged during the past year, but their efforts have been restrained by conditions in Canada, and to a large extent their efforts have been educational, which cannot fail to be of value to our Dominion in connection with the work of subsequent years.

During the last month of the year, a new Emigration Agency was opened at 8 Canute Road, Southampton, with premises admirably adapted for the purposes of the department. Southampton is a port from which a very large number of British emigrants have sailed in the past, and the prospect is that a larger number will sail from there in the future. There is no report from the agent of that district on account of its recent opening.

In connection with the Belfast office, it is proposed to rearrange the present office and secure additional premises which will enable us properly to cope with what appears to be an improving condition of emigration from northern Ireland.

CONTINENTAL

This work is now largely done through agencies on the continent dealing direct with Ottawa, but very many emigrants of nationalities other than British are living in the British Isles, and while the volume of continental work has been very largely decreased, owing to temporary agencies on the continent, we still have to deal with a large number of prospective emigrants of alien birth.

The character of accommodation for third-class passengers on Canadian liners is, generally speaking, in excellent condition, and is subject to inspection by our agents at the various ports on the day of sailing. The agents and the women officers who attend each embarkation have the opportunity of smoothing out difficulties and adding to the comfort and convenience of the emigrant, British or foreign.

MEDICAL EXAMINATION

We have taken advantage of the skill and diligence of the medical adviser, Dr. Howard B. Jeffs, stationed here by the Canadian Department of Health. No case is submitted to him that does not show on the medical certificate some physical or mental defect, and thousands during the year have received his consideration, and on his report it has been decided whether the emigrant could proceed with a chance of being admitted.

It is not the policy of the department to examine every person on this side of the Atlantic. This would be applying Canadian law in another land; nor does it seem to be obligatory so long as every intending emigrant is advised that if he or she fails to comply with the limitations of the Immigration Act, rejection will take place. This has been minimized—if not altogether prevented—by referring doubtful cases here for the opinion of our medical adviser.

The Official Roster of Medical Practitioners has been continued and amended from time to time; it has now been sufficiently long in practice to satisfy me that it affords the most extensive security against cursory medical examination and faulty medical certificates, and we have been applying pressure to maintain the high desirability and proved skill of those doctors whose names appear on this roster.

LECTURES

During the year (although this means practically the last three months) our agents have given 360 official lectures. Our lantern slides were used by unofficial friends of Canada, schoolmasters and others, during the last fiscal year on 1,301 occasions without cost to Canada, save the transit charges on the boxes of slides.

We continue to arrange our lecture propaganda in such a way that our dates would not clash with the propaganda of Canadian steamship, Canadian railway companies and others.

EXHIBITION MOTOR VANS

The success of Exhibition Motor Van No. 1 continued so pronounced during the year that Van No. 2, almost identical, was authorized and is almost ready to take the road. These two vans all the year through are calling at schools, addressing school children, and arranging for essays on Canada, for which prize books are offered. In the evening, the car is lighted up and is the centre of attraction in the market place of the village or town. This is carrying Canada to the countryside. It is intended that Car No. 1 shall spend the whole of the coming summer in the villages on the west coast of Scotland, while Car No. 2 will take southeast and southwest England. In view of the fact that there are 34,000 schools in the British Isles, and not more than an average of three per day, per car, can be visited, there is ample work for these cars for some years.

LITERATURE

During the year, we have been supplied with literature sufficient in quantity and variety to meet the needs of the somewhat reduced numbers being sought, but with the advent of the lecture season, commencing in January, 1923, the demand for information suddenly and materially increased, necessitating requests for larger quantities, and as the season progressed towards the close of the fiscal year, it was evident that an even much larger supply would be required.

The "Atlas of Canada," "Eastern Canada," and "Canada West" are three standard publications of excellent value and merit. They are not distributed without great discrimination because of their cost, but that they are effective and of lasting value is beyond question. We only wish that it were possible to supply them in sufficiently large numbers to give every enquirer a copy, but this not being presently possible, we are obliged to utilize very much cheaper pamphlets of a general character, of which hundreds of thousands will be necessary.

ADVERTISING AND PUBLICITY

Only during the last three months of the fiscal year was any advertising in the public press authorized, but the best was made of the opportunity.

EMIGRATION OF WOMEN

Our Women's Section has been slightly enlarged by the addition of assistant women officers at several ports. Their work is of the highest importance, giving protection to all women and children emigrants, whether unaccompanied or travelling with friends, and generally doing for that class of persons so much that helps Canada to secure and care for desirable classes, while eliminating by personal investigation those for whom Canada has no room.

EMIGRATION OF CHILDREN

The number of applications for children received by the department during the year has again very largely exceeded the total number available from this side of the Atlantic. With ocean transportation so expensive and other costs of equipment and after-care so heavy, the societies with the same amount of money they had before the war, are not able to deal with more than half the number of children.

Every care is taken to examine children before they leave the institution or home for the ship's side; on embarkation and on arrival in Canada they are subject to the usual inspection, like other passengers, and there is no reason, save that of finance, why the number of desirable children should not be largely increased.

DEPORTATIONS

We have dealt with 534 cases of deportations during the past year, and have seen that these unfortunate people were properly received, and individual attention given to each one as was required, in most cases without cost to the department. In the aggregate the total expense has been infinitesimal compared with the number so received and aided.

RELATIONS WITH OTHER GOVERNMENTS

It is gratifying to relate that the cordial relations between this department and all departments of the British Government have continued throughout the year with satisfaction and mutual good to all concerned. The Agents-General of four of the provinces of Canada who are established in London have continued to augment in every possible way the work of this department, not only to their respective provinces but to Canada in general.

IMPERIAL GOVERNMENT OVERSEA SETTLEMENT CASES

This scheme ended December 31, 1922, save for a few military persons not then demobilized; and a number of uncompleted forms are still here. During the fiscal year ending March 31, 1923, there sailed under this scheme 3,016 souls, of which during the last twelve months, warrant books were issued for 664 men, 706 women and 1,044 children—total, 2,414, the others who sailed having got their warrant books in the previous year.

PASSPORTS

This personal, official document is required from all except British passengers, but Canada remains the only country not demanding a passport from British passengers as a condition for admission; even Canadians coming to the British Isles must produce a passport.

CORRESPONDENCE, INQUIRERS, ETC.

——	London only	Branch offices
Inward letters	62,392	88,904
Outward letters	66,441	113,563
Total	128,833	202,467
Parcels of literature sent out by London office only	24,743	

Literature distributed—Pamphlets

London office	224,713	
Branch offices	540,011	
Total	764,724	including

Atlases as follows:—London office, 27,675; Branch offices, 166,969.

Personal Enquirers

	Men	Women	Total
London office only	19,457	12,708	32,165
Branch offices	46,663	30,315	76,978

FINANCE

I have again to record the closing of the accounts for the fiscal year, having on hand no unexpended balance. This has necessitated very careful organization by the accountant and assistants. The details and ramifications of this work cannot be understood without an inspection of the books and methods on the spot.

Accounts for repatriation under the Demobilization Vote have also been closed, and at the moment no account that has been presented is unpaid.

AGRICULTURAL SHOWS

It is generally agreed by those interested in Canada that nothing can exceed in value a well-placed exhibition of Canada's products, and, within the limits of the appropriation available, our agents were able during the last fiscal year to make the best use of the exhibits forwarded from Canada from time to time, and altogether attended 19 large shows. The most important of these were the Royal Counties show at Guildford, the Bath and West show held at Plymouth, the Royal Agricultural show held at Cambridge, the Highland Agricultural Society's show held at Glasgow, and the Royal Lancashire Agricultural show held at Preston. These shows each extended over from three to five days with an attendance running into many thousands. At each show, our officers were kept continuously engaged with inquiries, and the distribution of literature was only limited by the supply available.

Having thus accomplished in the large centres this exhibition work, our agents still find that the one-day shows where farmers and farm labourers principally congregate, and even the auction sales, form another ideal opportunity of getting into personal touch with the classes Canada particularly desires; and of these smaller shows we had displays at 79.

The show work during the past year, has more than proved the value of this part of our propaganda, and arrangements are being made to extend this work as far as our appropriation for the present season will permit.

It is gratifying again to record the personal consideration given by our officers to every individual case, so that none go forward without being fully equipped with information and none without having felt, if they desired it, the personal influence and advice of our experienced men and women officers.

Nothing will be left undone, I am sure, by any member of the staff for the better equipment of themselves for the work of the department, and of the complete loyalty of the whole staff to the Canadian Government there can be no doubt.

REPORT OF THE INSPECTOR OF UNITED STATES AGENCIES, W. J. WHITE

In referring to my last annual report I find that it was possible for the impression to be left that in the year just closed there would be recorded an increase in the number of settlers from United States points taking up farms in Canada. The reasons for this forecast were the increasing and intense interest that was universally shown by inquirers in the territories being worked by our agents; the difficulties that the agents met with during the year were seemingly to be overcome. These were the obligations that tenants and purchasers had been placed under owing to high prices of land, the payments that were to be met, and the difficulty of doing so with low prices for grain and other farm produce, poor crops, high interest charges and proportionately high taxes.

These things absorbed effort and cash and weakened energy. It was felt that these regrettable and unavoidable conditions would be removed, or removed to an extent that would permit those labouring under them to overcome them, and eventually carry out their intentions of transferring themselves elsewhere with conditions more endurable. But, as it happened, and as the reports of last year show, there was little betterment. Conditions throughout the past year changed but little; if anything, they became worse, and the hopes that were entertained of better results did not materialize. It must not, though, for a moment, be thought that there was any lessened interest. On the contrary, as the intensity of the hardships amongst the farmers in the United States grew, there increased the desire to better conditions by taking advantage of the opportunities offered by Canada in its low-priced lands, in lands capable of yielding equally well in production at much less cost, and on the market realizing prices fully as good. All that was waited for was release from the burden that they were labouring under and gathering sufficient means to make a fresh start somewhere else.

Another deterrent influence, apart altogether from those local and not chargeable at all to conditions in the United States, was that caused by the unfavourable reports of conditions in Canada, in which farmers were pictured leaving their farms and the young men leaving the country by hundreds. The influence that such reports had upon the minds of those our agents had in prospect can better be imagined than described. It was difficult to have the idea take root that conditions in Canada were more favourable than those under which they were labouring. It was therefore next to impossible to move people in that state of mind. It is not my province to criticize these reports; there may have been some foundation for them, but the fact remains that they had a strong influence which worked against the securing of farm immigrants during the past year.

Sounding the "blue ruin" cry may have been justified as a means to an end. I am generous enough to believe had it been realized that the cry would have been broadcasted throughout the length and breadth of the territory in which we were endeavouring to secure settlers, those responsible would have been less voicesome in giving tone to their denunciation and grievances. These reports did an amount of harm which to overcome would have been a hopeless task if for a country having less resiliency and response than that possessed by Canada. Still it had its effect on the work in the United States.

It was not alone the conditions that have been outlined that led to the baffling of the hopes entertained in my last report. Other economic reasons performed fully as important a part. The hoards of wealth of the United States in order to avoid large drafts for income tax were diverted to manufactures and building. Cities and towns entered upon an era of construction and manufacturing never before known in the history of the country. Factories were established, high wages were demanded and paid. Labour quit the farms and went to the cities and towns. In many cases, the farms were left unmanned. Not only was all available labour here conscripted to assist in carrying out this unheard of production of the factories and erection of buildings. From across the border, from away into the interior of Canada was heard this cry for help wanted in the United States, for which wonderfully high wages were offered. Trains and ferries were crowded to capacity carrying their loads of young men from Canadian farm fields, lured by these high wages. Thus were Canadian farms robbed of their needed help. Farming paid but a trifle as compared with that paid to helpers in the factories and workers in the building trades. It is quite evident that this will be overcome in the course of time, and not so

very far away at that, there will be a return of most of this help so much needed and desired in Canada. With this return will go others, for a period of normalcy will take place in Canada that will absorb all that may choose to come. As I have said, many Canadian farms were denuded of their help, but the percentage so affected was infinitely less than that in the United States. An illustration or two will suffice to show to what extent this was the case, and, at the same time, give some idea of the way in which the buoyant hopes of our field workers might have been shattered had they not been confident that it was merely an ebb in the general flow of their work.

One of our representatives was accompanied into a portion of his territory from which he had promise a year ago of getting some good settlers, all farmers. When he saw them at that time they were only waiting the winding up of some business affairs before moving. One family comprised the husband, wife and three grown up sons, just the material Canada was looking for. After a year the same farm was visited, but now there only remained the husband and wife. The three boys had obtained work in an automobile plant, getting for their services $7.00 per day each. The husband and wife were working the farm. Assurance was given, however, that as soon as there came the passing of these good times they would make a move Canada-wards. Success, however, would be met by a four mile drive farther up the road, where there was a man, his wife and one grown-up son. All that was necessary to have them start was to see them, give them the rates and other necessary information. A year ago they were all but ready. On this place, the wife was working the farm. The father and son had taken employment in the neighbouring town, each getting $7.00 per day. On their return, on a day which they feel will come, they will move to Canada, and that day will be soon, for, as has been said by Babson, "1924 will be Canada's year." The present inflation of work—building, manufacturing and such like will shortly reach the zenith of production here.

Much has been said and written of the influx of Canadians into the United States during the past year. Fifty per cent of this is imagination, but even if fifty per cent of it be true, it is regrettable, yet unavoidable. The fifty per cent may be discounted because it is not permanent. It is temporary, and probably not ten per cent of those who have made entry into the United States intend to remain. The fifty per cent I have allowed for therefore may mostly all be said to be transient, lured by the high wages, which cannot be maintained; these people have no idea of remaining permanently.

That which has attracted the United States farmer and his help to the cities and factories has in like manner attracted the Canadian farm helper, probably more than the farmer himself. I met a case in Detroit a short time ago. Two young men called at our office there and asked about rates to Western Canada. As it is custonary they were asked why they wanted to go and queried as to other particulars. This drew out the fact that they were from Moosomin, Sask. They were anxious to return to help with the spring work. They had left the Canadian farm early last fall, and taken employment in a Detroit garage where they received splendid wages. Was that not sufficient warrant for leaving the farm? But, in their case, as in scores of others, it was but temporary. They are now back on the old farm helping their father.

I trust, sir, you will pardon this somewhat lengthy account outlining some of the difficulties that have beset our agents during the past year, and I hope you will not take it as a moan of complaint of conditions that will not be overcome. Optimism prevails on the part of our agents everywhere, and, while it may seem discouraging at times that there is not a greater response to the untiring efforts put forth, endorsed and backed most loyally by the department, there is the feeling, and fully warranted, that the present is but

a lull that will be followed by a splendid response to the efforts that are being put forth. It would be well, however, to keep in mind the fact that we cannot hope to see an immediate return to conditions of a few years ago when homesteads within reasonable distance of the railway areas were available and land prices were one-fifth of what they are to-day. There will, however, be a continued healthy growth in interest and an increasing flow of immigration from now on. Within a short time there will be economic changes, and we will see settlers crossing the boundary into Canada in numbers and quality as great as in any year since 1911-12, when as been pointed out there were conditions different from those of to-day.

In my last report were given instances of those returning to Canada after making their venture in other parts. This is a frequent occurrence. There are those who are restless. After residence for awhile on a Canadian farm they imagine they have realized sufficient to satisfy themselves, and then comes the lust to return to their "old home," they sell out and make the "old home" venture. But they find things different. Then begins the "hankering" for the Canadian farm. They return. Sometimes it takes them six years to arrive at this decision. I have known cases where one year was sufficient.

Emphasizing what has been said as to the hopes and assurance of a continued growth in immigration from now on, I would like to impress upon you the point that a lively factor in keeping up this movement will be the restoration to the farmer conditions that will give to his work the place that properly belongs to it. That means a remunerative price for his products, the removal of a good deal of the burden he has to carry in the high prices of all that goes into his production. Then, there will be an active and pleasurable incentive to continue and expand operations.

Notwithstanding the dispiriting conditions that have beset our agents during the past year, their efforts have been fully as energetic as in any time in the past. They are encouraged by the interest shown almost everywhere. Their energies have been exerted in fields which might not at the present show immediate possibilities, but which certainly give evidence of splendid returns in the near future. They are sowing seed that will give good returns, which may not come into evidence for a year, maybe a couple of years. It is difficult to say when the results of this work will become apparent. This is frequently strikingly apparent, as for instance, only a short time ago our representative in South Dakota received a copy of an advertisement of Canadian lands bearing his name, sent in by a farmer in one of the outlying counties. The advertisement had appeared in a publication five years before. It had evidently been kept in the applicant's possession all that time. The result was that the seeker for information was called upon. In a few weeks afterwards he and his family of eight started for Canada. So we do not always achieve immediate results.

The advertisements of the department are carried in such papers and periodicals as reach the class of people we are expected to interest. They are carefully prepared, tastefully and attractively arranged. The literature that is sent to those who are interested is of an appealing character, truthful in every respect.

In addition to this line of propaganda, the Exhibition Branch of the department proves its worth in the quality and variety of the exhibits sent to the agents for display purposes at state and country fairs. These are highly valuable in the work; wherever shown they attract great attention and interest.

Important to the work in the United States is that in which is taken up the repatriation of Canadians who have made their homes in that country. The records of the department will give evidence of the splendid success that meets these efforts.

The policy of the department in removing many of the restrictions that debarred those of a splendid type of settlers had not been in force a sufficient time before this report was written to prove its value in the campaign of the past year. From reports made by the Government representatives there is, though, assurance that in the year upon which we are entering there will be seen most excellent results.

A few years ago, it was decided by the department to add to the title of the offices in the United States that of "Information Bureau." This gave considerably more work to those in charge, questions having to be answered on almost every conceivable subject—tourist, hunting, fishing, mining, timber, customs, as well as farming. The information bureaus are therefore very valuable, and the extra work which has to be performed is gladly undertaken by those in charge.

REPORT OF THE COMMISSIONER OF EXHIBITIONS, A. W. TOLMIE

During the past year, the Canadian Exhibition Commission has been actively engaged in the preparation and installation of exhibits in many centres in the United States and Great Britain. These exhibits comprise samples of the different natural products of the country together with framed photographs of scenes from different sections of the country. Exhibits were secured in both Eastern and Western Canada. From Eastern Canada, samples of fresh fruits were shipped to most important fairs, fresh vegetables were also shipped from Ottawa to all fairs held east of the Detroit river.

During the season, about two hundred jars of specially preserved fruits were secured, and these have been processed and are ready for this year's work.

At our western warehouse in Winnipeg, samples of grains (in straw and threshed), and fodder grasses were secured, sorted and prepared for exhibit purposes. Vegetables for all exhibits west of the Detroit river were collected and shipped from Winnipeg as well as samples of dairy products.

Over one hundred boxes containing small school exhibits of grains and grasses were also made up and shipped to different schools in the United States.

At headquarters in Ottawa, we built thirteen complete exhibition stands, these were used as a centre feature in all our exhibits. The construction was similar to that of last year in size, the design being altered slightly to make a better display of the exhibits when placed on the shelving, large pictures of grains and grasses formed the background of the stand.

Exhibits were shown at twenty-four state fairs, each of these fairs extended over a period of ten days, and the estimated attendance was placed at over nine millions.

In addition to the above state fairs, we placed smaller exhibits in some sixty county fairs, the duration of these fairs was for four days, and the estimated attendance was over seven millions.

After the opening of these exhibits, the Canadian Government agent in the district in which the fair was held, took charge of same and together with his assistants distributed Canadian Government literature and gave authentic information as to the opportunities and conditions in Canada.

Permanent exhibits were installed at Indianapolis, Ind., and Great Falls, Mont.; agencies.

Special show cases were erected in Ottawa for this purpose, these were constructed in our warehouse here and forwarded to the agents along with suitable exhibits to place in their show rooms. Our permanent exhibits in Chicago were rearranged prior to the opening of the International Live Stock Show. In addition, we secured a large space during the term of the show in which we placed a large centre trophe showing exhibits of grass, fodder, grains, syrup

and cured meats, the latter being shown in special cool storage cases. In February, we installed an exhibit at the National Motor Boat show at the Grand Central Palace, New York. At this exhibit, we had the co-operation of the Department of Railways and Canals in the matter of literature descriptive of the numerous canal systems of Canada. This exhibit was very largely attended, and a number signified their intention of visiting Canada during the season of 1923 in their motor boats. This exhibit gave special prominence to the Trent Valley canal, as larger craft can now be taken over the Marine Railways, it should prove an attractive route from lake Ontario to Georgian bay.

At several of our fairs in the United States, we exhibited a series of photographs pertaining to the National Parks of the Dominion, also maps showing the main highways throughout the United States and their connection with the Canadian Motor Highways. This exhibit proved interesting to quite a number of tourists who are arranging for long motor trips.

In addition to the work carried on through the United States agencies, we also prepared and shipped two large exhibition stands for use in the large agricultural fairs in Great Britain, exhibits of grains (in straw and threshed), fodder grasses and fruit were supplied also for the above.

During the season, our fruit processing department was actively engaged in selecting, processing and shipping.

Several representative mineral collections were displayed during the season, these are now on display in the offices of the agents.

During September, the British Empire Exhibition Commission paid a visit to Canada to influence the Dominion to participate. In February, I had to proceed to London on matters pertaining to the British Empire Exhibition; during my stay, building plans were prepared and passed by the Exhibition Association. The space secured is most favourably situated. Details so far worked out cover the principal points of participation and no effort will be spared to make it the most acceptable display of the resources of the Dominion that Canada has yet attempted. From London, I proceeded to Paris in connection with the Canadian Exhibition Train, which is to tour France during the coming summer.

In the matter of the above exhibits, we built at our warehouse here a replica of one of these cars in which we placed exhibits as they would appear when on exhibit in France, photographs were then taken of the completed car so that when goods were received in France there would be no confusion or delay in reinstalling preparatory to starting on the circuit of trip. We extended to the Department of Trade and Commerce what assistance we could in this matter, the above exhibition being carried by the Department of Trade and Commerce.

The work for the coming year is going to be very heavy, and so far as was possible, during the winter months, we advanced what we could in preparation for this.

REPORT OF THE DIRECTOR OF PUBLICITY, ROBERT J. C. STEAD

Perhaps it cannot be too often reiterated that publicity is the foundation work of an immigration department. That is not to say that all immigration publicity is necessarily carried on by the Publicity Branch of the department. There are other forms of publicity—the letter of the satisfied settler, for example, or his occasional visit to the land of his former residence—which are very powerful factors in promoting immigration. But they are publicity, nevertheless; quite as much so as if they had originated in the Publicity Branch of the department; and without publicity there would be no immigration.

It is apparent, therefore, that much Canadian publicity, having a direct effect upon immigration to Canada, is carried on by agencies quite outside the control of the Department of Immigration and Colonization. Letters from settlers to their friends in other lands; impressions gathered by visitors to Canada; newspapers sent from Canada to subscribers elsewhere; press despatches; contributions to magazines printed in the British Isles, Europe, or the United States of America; stories or books using Canada as the scene of action; motion pictures purporting to depict Canadian life or scenery—all these are forms of publicity which have their inevitable effect upon immigration. Some of the publicity contributed through these sources is beneficial, and some of it is harmful. Letters, articles, and stories which picture life and conditions in Canada as they really are, relieved, always, by that note of hopefulness and constructive optimism which is indispensable to the development of a new country, may be classified as favourable publicity; but letters, articles, stories, press despatches, and, perhaps particularly, motion-pictures, which give untrue suggestions as to life and conditions in Canada are harmful publicity, and are doing an injury to Canadian immigration work which cannot readily be estimated. Except in so far as it has been associated with it the department can claim no credit for beneficial publicity arising from sources just referred to; but it is equally true that it must not be held responsible for the evil effects of unfavourable publicity equally beyond its control. No small part of the time and effort of the Publicity Branch is devoted to correcting the effects of unfavourable publicity broadcast about Canada, sometimes maliciously, more often thoughtlessly, but in either case reacting directly upon the success of Canada's immigration work in other lands.

With a view to insuring, so far as possible, co-operative effort upon the part of those most interested in disseminating helpful publicity concerning Canada, a committee was organized during the year with representatives from the Canadian National Railways, the Canadian Pacific Railway, and the Department of Immigration and Colonization for exchange of information and experiences and suggestions as to policies. I was honoured by being made chairman of this committee, which held frequent meetings during the winter months, and I wish to take this opportunity of expressing appreciation of the spirit of frank co-operation which has marked the attitude of the various interests represented. This has been carried to the extent of mutual discussion of the advertising campaigns proposed by the various interests, and has even reached an arrangement under the direction of the Publicity Branch of the Department of Immigration and Colonization by which the expenditures on certain forms of Canadian immigration publicity are borne co-operatively by the interests concerned.

An immediate outgrowth of this publicity committee in Canada has been a similar organization in the British Isles, with a somewhat larger membership, embracing not only Canadian railways but steamship companies engaged in promoting immigration to Canada. This organization is under the chairmanship of Mr. J. Obed Smith, Superintendent of Emigration for Canada in London, and is operating in close association with the Publicity Branch at Ottawa.

The publicity work of the department for the year may be briefly reviewed under the following headings: advertising, booklets and publications, news and feature articles, lectures, motion pictures and photographs, journalists and editorial parties, and general.

Advertising.—In view of the fact that Canada's call to immigrants is confined for the most part to those who will undertake, either as farmers or farm labourers, the development of the land, our general advertising is confined almost exclusively to farm journals, country weeklies, and other publications having a preponderatingly rural circulation. For some time, awaiting readjust-

ment of conditions following the war, our newspaper advertising in the British Isles had been suspended, but it was resumed on an active basis during the winter of the year under review. Reports from our offices in Great Britain and Ireland showed an immediate quickening of public interest with a resumption of advertising.

Advertising in the United States had not been discontinued as was advertising elsewhere, mainly for the reason that the United States has proved a very fertile field in which to disclose the attraction which Canada has to offer to practical farmers with some capital. Immigrants of the type sought by the department in the United States are mostly men in a position to create their own employment, and thus do not contribute to the labour problems of the country. With enlarged publicity activities generally, however, it was decided to increase our advertising in the United States, and a particularly vigorous campaign was carried on during the winter months, centralized in agricultural periodicals and in country weeklies. As in the British Isles, this campaign was followed by an immediate increase in inquiries directed to our agencies in the United States, and, although conditions immediately following the campaign were not particularly favourable for emigration from the United States to Canada, there is no doubt that the seeds sown during the winter months will bear fruit in an increased movement from south of the international boundary. Evidence of the effect of a campaign of this kind in promoting interest in Canada's immigration opportunities is found in the fact that inquiries in the United States increased from 1,893 in January to 3,613 in March.

Coincident with the opening of advertising campaigns on a larger scale, a system of keying and checking inquiries was installed with a view to establishing which papers were suitable for our purposes and which were not. The result of this system of keying has been certain changes in the publications now being used, with assurance of improved service to the department.

Booklets and Publications.—New editions of our principal publications were issued for distribution both in the British Isles and the United States. The "Descriptive Atlas of Canada," which is supplied by this department for use in the schools of the British Isles and the United States, continues to be in large demand; in fact, notwithstanding the very considerable editions which were printed during the year we were unable to meet all requests for copies. A case in point is a request for 20,000 copies made by the school authorities of the city of Glasgow, to whom only 10,000 could be supplied. The Atlas is a substantial book of 80 pages and cover made up in the style of a school geography and containing maps in colour of the Dominion and of each of the provinces. Separate editions are issued for the British Isles and the United States, the British edition showing values in sterling currency as well as in dollars. During the year 325,650 copies of the British edition, and 354,800 copies of the United States edition, were issued.

Our "Canada West" booklet is designed to give information concerning settlement opportunities in the provinces of Manitoba, Saskatchewan, Alberta and British Columbia. Separate editions are issued for distribution in the United States and the British Isles. For distribution in the United States, during the year, 559,960 copies were issued, and in the same period, 105,050 copies of the British edition were supplied for distribution in the British Isles.

Our "Eastern Canada" booklet aims to serve the eastern provinces in the same way as "Canada West" serves the western provinces. In this case again, two distinct editions are issued, one for distribution in the British Isles and one for distribution in the United States. It is interesting to note that, while the demand for "Canada West" is much greater in the United States than in the British Isles, the demand for information concerning Eastern Canada is greater in the British Isles than in the United States. As a result of these con-

ditions, 55,900 copies of the British edition were issued during the year, but no reprinting of the United States edition was found necessary, there being a sufficient supply on hand from the previous year.

Other publications of the department include, Settlers' Letters Leaflets (accounts of experiences of successful settlers) of which 165,000 copies were issued for distribution in the British Isles; a Welsh booklet, of which 5,000 copies were issued for distribution in Wales; a booklet, "Women's Work in Canada," of which 50,000 copies were issued for distribution in the British Isles, and a number of minor publications. A summary of the principal publications issued by the Publicity Branch of the department follows:—

Descriptive Atlas of Canada, British edition	325,650
Descriptive Atlas of Canada, United States edition	354,800
Canada West, British edition	105,050
Canada West, United States edition	559,960
Eastern Canada, British edition	55,900
Settlers' Letters Leaflets	165,000
Welsh booklet	5,000
Women's Work in Canada	50,000
Wall Maps of Canada	15,568

News and Feature Articles.—An important section of the publicity work of the department is the supplying of news and feature articles to newspapers, magazines, and other publications. A weekly news letter is issued from this office and sent to newspapers and news distributing agencies in Canada and the United States. This letter also constitutes in large measure the basis of a similar news letter mailed each week from our London office to the press of Great Britain. It is widely quoted in the press and is also distributed by our agents to inquirers interested in settlement opportunities in Canada. Arrangements, already referred to, for co-operative action with the railway companies in distributing Canadian publicity in other lands are well under way. Through one channel alone, a circulation of 85,140,770 was obtained in the fiscal year under review.

While the idea back of all our publicity effort is the encouragement of immigration, no very hard and fast rules as to what constitutes immigration publicity can be laid down. It may, however, be stated that anything which keeps Canada in the public eye and concerning which there is no unfavourable reaction, has a publicity value from the immigration point of view. Accepting this as being the case, it is a practice of this branch to co-operate with branches of other departments as opportunity offers and to extend its facilities for securing circulation, particularly outside of Canada, for anything of public interest.

Lectures.—No salaried lecturers are engaged by the department, but the regular agents, particularly in the British Isles, devote a very considerable amount of their time to lecture work. For this purpose they are provided with hand coloured lantern slides and in some cases with motion-picture films, accompanied by suitable notes for use in lecturing upon the attractions which Canada has to offer. Much valuable and inexpensive publicity is obtained by the practice of lending lantern sets and lecture notes to individual lecturers and to associations and clubs. In cases where the results seem to justify the expense, special slides or motion pictures are prepared and supplied to lecturers of standing in order that they may be included in their programmes.

Motion Pictures and Photographs.—We are gradually assembling a valuable collection of motion-picture and still-picture photographic negatives, and the use of motion-pictures in the publicity work of the department, particularly in

the British Isles, is steadily increasing. A continuous demand for photographs of all kinds illustrating the various phases of Canadian life is made upon this office, largely by publishers in other lands, and, as far as possible, such requests are complied with. Enlargements of suitable Canadian photographs are also supplied for display in the offices of the department in other lands and are also now being displayed on a number of the steamships plying between Great Britain and Canada. Specially prepared albums of Canadian views are supplied to our agencies.

The growth in this branch of our publicity work is illustrated by the fact that, in the previous year, we supplied 737 photographs and in the year under review the number increased to 2,305, in addition to 115 enlargements.

Journalists and Editorial Parties.—An important branch of our work is found in arranging for the visits of journalists and editors who wish to see Canada with their own eyes for the purpose of writing articles for publication in the papers with which they are concerned. Arrangements for a special train of United States editors were completed early in the summer season, but the situation arising from the coal strike and other industrial disturbances made it necessary to cancel the trip. A number of individual editors and writers were, however, received and given every facility to visit the points of interest in the Dominion. Some of these visitors were accompanied by representatives of the department; others made their own way through the country, but in either case there are evidences of excellent publicity results. One of our guests has contributed a series of articles on Canada to very prominent American magazines, and another has written a book presenting phases of Canadian life, which has recently been published in England.

General.—Many items in the day's work of a Government publicity office do not lend themselves to any specific classification. The daily mail brings its quota of inquiries on various subjects. If the inquiry happens to be one coming within the field of any particular department of the Government it is referred to that department for attention. Inquiries which bear any relationship to immigration, or any other topic of Canadian interest not specifically coming within the field of another department, are dealt with by this branch. The correspondence carried on in this way is steadily increasing and a vast amount of information is being distributed direct to indivduals.

Publicity bearing on so important a matter as the change of one's home, and possibly, of his citizenship, cannot be fully measured by immediate results. In many cases, a period of years elapses between the first inquiry, prompted by the department's publicity campaign, and the actual movement of the settler to Canada. Publicity activities were increased during the year under review, and provision has been made for further increases during the fiscal year 1923-24. Some effect of this increased publicity is already being felt, but the principal results should not be anticipated within a period of less than one or two years.

REPORT OF THE DIRECTOR OF PUBLICITY, WESTERN DIVISION, J. BRUCE WALKER

I beg to submit hereunder the annual report of the Director of Publicity, Western Division, for the year ending March 31, 1923.

The volume of business done through this office during the year has been pretty well up to the standard. There has been much direct correspondence between the office and persons in the United States desirous of obtaining information particularly about Western Canada.

The various agencies of the Canadian National Railway and the Canadian Pacific Railway operating in the United States have made it a practice for some time to refer inquirers upon settlement in Canada to this office. I have had a great many opportunities of meeting with such enquirers, and discussing with them in an intimate and practical manner opportunities of settlement and chances of success. Care has been taken to point out the difficulties of settlement particularly in unorganized districts. It seems wise and fair to afford even the shady side of the situation to the new settler, so that he will not feel that the bright side only has been presented to him. A very large number of the inquirers from the United States have been directing their attention to Peace river and the Peace river country, and while I have not dissuaded any of my correspondents from thinking upon settlement in the Peace river, I have not failed to point out that there are abundant opportunities in other parts of Canada where their abilities, experience and efforts would probably be quite as successful as in districts more remote from settlement.

There is still considerable inquiry as to the value of lands particularly in the newer parts of the country. Many correspondents in the United States write casting doubt upon the quality of the land which is reported to be for sale in this western country at from $25 to $35 an acre, in virgin condition, and expressing wonder that land capable of producing such crops as ours produce, can be obtained for such a price. Many of these correspondents are rather exacting in the details of the character and quality of the land offered for sale at from $25 to $35 per acre, and I have had to give a good deal of attention to this phase of the work.

I have inquiries from the head office at Ottawa as well as from all our agents in the United States on matters of specific information outside of the ordinary run and general knowledge. Our agents avail themselves of my long experience and intimate practical knowledge of Western conditions to answer questions for them which are outside of the ordinary routine, and which require a more or less intimate knowledge of particular districts. This is particularly true where the inquirers have been asking as to conditions of settlement in newly opened up and organized territory, as well as in the more remote and unorganized districts. With inquirers in possession of the pioneer spirit, it is not difficult to give them such information as they readily understand, but many of our correspondents are persons who have been accustomed to farming in settled areas, and they are very particular as to facilities, conveniences and opportunities in the newer lands of the West.

During last fall, I was instructed to meet a delegation representing the proposed British Empire Imperial Exhibition to be held in London, in 1924. This delegation was met at Victoria, on their arrival from Australia, where they had spent two months. The party, in charge of Major Belcher, D.S.O., came to Canada with the object of giving public information as to the purposes of the proposed exhibition, and incidentally to create some interest in Canada, with a view to having Canada adequately represtented. Acting under the Minister's instructions, it was my duty to take them across country and introduce them to the proper authorities of the various provinces as they passed eastwards. This was done, and no doubt the proposed exhibition received a very fair share of newspaper publicity.

I have had occasion to address a very large number of meetings in connection with Service and other Clubs, Chambers of Commerce, Boards of Trade, etc., in different parts of the United States between New Jersey in the east and Kansas in the west. At these functions, largely attended by the best representative business men of each community, I had an opportunity of speaking upon international friendships. I drew attention to the common ideals, common literature and language, and common outlook on life, possessed

by the people of the United States and Canada in a measure of nearness not comparable with any other countries, and incidentally, of course, I found it necessary to appraise the value of Canada to the United States, and to exploit not only the present wealth, but the potential wealth, and the amazing and almost inexhaustible natural resources of our country. These addresses, not only seemed to be greatly appreciated by the audiences, but they received very wide-spread newspaper publicity, and I think it may reasonably be assumed that efforts in this direction had the effect of bringing Canada directly and indirectly before a very large number of people.

Recent visits in the United States confirm my impression that there is an awakening and a renewed interest in Canada, particularly among the agriculturists of the Middle Western States. I found a great deal of intelligent interest and inquiry, and from personal contact with a considerable number of farmers and others interested in agriculture throughout the Central and Western States, I am satisfied that as soon as financial conditions make movement possible they will cross the line with a view to settlement in our country. I was also glad to notice that even amongst those who were not agriculturists and had no immediate intention of coming to Canada, there was nevertheless a live interest in our future, and the more widely read of these people readily recognized that our agricultural possibilities, especially, were within the next few years sure to engage and rivet the attention not only of the United States, but of the whole Continent of Europe.

I had an opportunity of assisting Mr. W. J. White, Inspector of United States Agencies, in a rather pretentious and striking exhibition given by the department at the Florida State Fair, at Tampa, Fla., early in 1923. The Canadian exhibit was by all odds the most striking feature of the whole fair, and this fair was attended by an aggregate of some 200,000 persons. A very large number of those present were prosperous farmers from the states immediately west of the Ohio river, and indeed from some of the states east of that. It is within the mark to say that in the course of my week's work at this exhibition I had personal contact with at least two hundred farmers, each of the seven days of the fair. I was able also to get a very considerable amount of newspaper publicity both in editorials and in news items regarding Canada and the Canadian exhibit. It is my opinion that this exhibit was well worth its cost, and from the correspondence that I have had from persons I met there, I think a great deal of interest was created in the minds of many well-to-do farmers hailing particularly from the states of Indiana, Illinois, Iowa, and Nebraska.

As all of the publicity obtained through this office and through my own work is given by courtesy, and as an item of news, it is extremely valuable, and doubtless draws much more attention than the ordinary paid advertisements.

REPORT OF COMMISSIONER OF IMMIGRATION, EASTERN DIVISION, W. R. LITTLE

The inspectional work in the Eastern Division covers all ports of entry on the international boundary east of Port Arthur and ocean ports on the Atlantic seaboard in Canada. Canada-bound immigrants are also examined at Boston and Ellis island.

BORDER PORTS

During the fiscal year which ended on the 31st of March, 1923, there were 11,332 admissions and 12,231 rejections at border ports. Of the number rejected there were 342 appeals, 87 being sustained and 255 dismissed. There were also 260 admitted by permit.

STATEMENT of Admissions, Rejections, Appeals, Investigations, Prosecutions and Cash Deposits at the various border ports for the year ended on March 31, 1923.

Ports	Admissions	Rejections	Appeals				Investigations	Prosecutions	Cash deposits			
			Sustained	Dismissed	By permit	Pending			Refunded	Forfeited	Pending	Total
									$	$	$	$
Abercorn	17											
Andover	29											
Aroostook Jct	59	10										
Beebe Junction	628	355	16	8	38		21		525			525
Belleville	4											
Bridgeburg	1,011	1,018		25	53		6		2,025		150	2,175
Brockville	67	32		2			42					
Clair	12											
Coaticook	328	115							100			100
Cobourg	7	7					8					
Comin's Mills	74	4										
Cornwall	51	100					4					
Crystal Beach	3	33										
Debec	37	7										
Edmundston	45	8										
Erie Beach		69										
Fort Erie	130	73		3			3					
Frelighsburg	34											
Gananoque	37											
Grand Falls	14											
Halifax	9											
Hamilton	20											
Hemmingford	31	5										
Highwater	869	268		5	10				1,385		80	1,465
Kingston	76	17										
Lacolle Highway	80	208										
Lacolle (D. & H. Ry.)	393	757	15	24	13	3	36		10,555	200	875	11,630
L'Etete	3	2										
Malone	100	126		9			3		750			750
McAdam Jct	358	75		39					850		200	1,050
Megantic	90	13			11							
Milltown	34	14			2							
Montreal	47											
Morrisburg		1										
Niagara Falls	975	2,253	4	38	29		250		200		1,000	1,200
Phillipsburg		1										
Point Edward	8	6										
Port Lambton	7	1										
Port Stanley	5											
Prescott	109	95		2	6		11		120			120
Richmond Road	29	8										
Rockport	5											
Rouses Point	133	307	4	4					1,800		600	2,400
St. Agnes (Huntingdon)	59	49		3	1		3					
St. Albans	537	260		4	3							
St. Andrews	5	2										
St. John	6											
St. Leonards	59	12										
St. Regis		1										
St. Stephen	66	151		4	5		16		425			425
Sarnia	850	309					27					
Sault Ste. Marie	273	142	4		1		24		275		200	475
Sombra	9											
Stanhope	10	33										
Toronto	99	27	1				2,938	1	9,189		7,325	16,514
Walkerville	197	781										
Windsor	3,070	4,448	43	85	88		913		4,075		500	4,575
Yarmouth (via Boston)	124	28										
Totals	11,332	12,231	87	255	260	3	4,305	1	32,274	200	10,930	43,404

Though there has been a decrease in the number of immigrants who have been admitted within the area mentioned yet there has been a marked increase of passenger traffic, e.g., there were 3,302,961 persons inspected at the upper steel arch bridge at Niagara Falls, or an increase of about 355,000 over the preceding year. There also entered Canada over the same bridge 256,302 automobiles. At the lower railway arch bridge 1,000,444 passengers were inspected, or an increase of about 300,000 over the preceding year.

At Lacolle highway 41,545 automobiles reported inward. Of this number 25,765 were United States cars and 15,780 were Canadian. The total number of passengers travelling by these cars was 151,816.

The number of passengers who entered Canada at Prescott was 116,239. There were also 13,828 automobiles.

These particular ports are mentioned for the purpose of showing that the actual numbers of admissions and rejections do not convey any idea of the extent of the inspectional work performed by immigration officers.

OCEAN PORTS

The following transatlantic passengers (immigrants and non-immigrants) destined to Canada, arrived at ocean ports on the Atlantic seaboard: Quebec, 60,704; St. John, 15,339; Halifax, 9,405; Boston, 141; Ellis Island, 8,087.

The preliminary civil inspection on the Continent of Europe has appreciably reduced the number of detentions at ocean ports.

STATEMENT of Immigrant Arrivals, Rejections, Appeals, etc., at Ocean Ports.

—	Immigrant arrivals	Rejected by Board of Inquiry	Appeals				Total		Cases referred to Board of Inquiry	Investigations	Transatlantic passenger vessels examined	Crew manifests submitted
			Sustained	Dismissed	By permit or otherwise	Pending	Admitted	Rejected and deported by Dept.				
Halifax	5,091	69	1	.....	16	4	5,039	48	60	21	85	680
St. John	8,623	121	26	13	52	.....	8,580	43	141	71	32	576
Quebec	31,784	387	.....	38	320	.....	31,717	67	455	27	144	73
New York	2,648	414	78	112	118	.....	2,430	218	.....	608	972	.....
Montreal	256	85	.....	.....	.....	.....	171	85	.....	.....	.....	875
Boston	37	.....	.....	.....	.....	.....	37	.....	.....	49	.....	.....
Sydney and Louisburg	69	2	.....	.....	2	.....	69	.....	9	401	33	539
North Sydney	1,444	18	.....	.....	.....	.....	1,426	18	.....	8	.....	589
Totals	49,952	1,096	105	163	508	4	49,469	479	665	1,185	1,266	3,332

MONEY Deposited at Ocean Ports in Lieu of Bonds.

Ports	Number of deposits	Total amount	Amount refunded	Amount forfeited	Amount pending
		$	$	$	$
Halifax	7	700	700	.....	.....
St. John	4	700	400	.....	300
Quebec	6	1,450	1,150	.....	300
Montreal	33	4,305	2,755	.....	1,550
Sydney	4	450	300	.....	150
North Sydney	8	340	340	.....	.....
Totals	62	7,945	5,645	.....	2,300

ADMINISTRATIVE FINES

Moneys were collected from transportation companies to cover 56 administrative fines, the total amount being $7,525. Of this amount the fines assessed amount to $2,075; while $3,600 has been refunded, and cases involving the sum of $1,850 are still pending.

STATEMENT of Administrative Fines

Port	Cause	No.	Amount collected	Assessed	Refund	Pending
			$	$	$	$
Quebec	Mentally defective	4	800	200	600	.....
	Physically defective	1	25	25	...	.....
	Contagious or loathsome disease	11	2,200	1,200	800	200
Montreal	Mentally defective	1	200	.....	200	.....
	Physically defective	.....	.....	.....	.....	.....
	Contagious or loathsome disease	1	200	200	.....	.....
Halifax	Mentally defective	3	600	.....	200	400
	Physically defective	18	450	50	175	225
	Contagious or loathsome disease	1	200	.....	200	.....
St. John	Mentally defective	4	800	200	400	200
	Physically defective	2	50	.....	25	25
	Contagious or loathsome disease	10	2,000	200	1,000	800
	Totals	56	7,525	2,075	3,600	1,850

DEPORTATIONS

The following statement shows the number of persons deported for causes subsequent to entry and the statutory causes for deportation:—

DEPORTATIONS, by Causes, from Eastern Division for Fiscal Year 1922-23

	To United States	To Other Countries
Abortion	.....	1
Accompanying deports	3	26
Alien enemy	.....	1
Asthma	.....	3
Avoiding port of entry	3	4
Blindness	.....	1
Bronchitis	.....	3
Criminality	184	83
Desertion	2	9
Epilepsy	1	6
Gonorrhœa	.....	1
Heart disease	.....	4
Immorality	1	7
Insanity	11	70
Mentally defective	1	35
Narcotic Drug Act, violation of	11	6
Nephritis	.....	1
Neurasthenia	.....	2
Paralysis	.....	1
Physically defective	.....	11
Prostitution	5	4
Public charges	33	366
Tuberculosis	1	11
Vagrancy	9	5
Venereal disease	1	1
Totals	266	662

SEAMEN

The following is a record of crew lists submitted at the following ocean ports: St. John, 576; Quebec, 73; Halifax, 680; Montreal, 875; Sydney and Louisburg, 539; North Sydney, 589:—

DESERTERS

Quebec and Montreal	828
Halifax	43
St. John	84
Sydney and Louisburg	69
Ports on the Great Lakes	14
Total	1,038

A large number of deserters from ocean vessels seek employment during the summer as seamen on the Great Lakes and return to the ocean ports late in the fall. A considerable number of these seamen, however, remain in Canada. It is difficult and almost impossible to properly check this traffic. Our agent in Montreal co-operates with the shipping master, who renders valuable assistance in the cases of British seamen.

BUILDINGS

Boston.—The Eastern Steamship Company have provided suitable facilities for inspection by the erection of an examination room and office accommodation.

Lacolle Highway.—The new building erected on the highway for customs and immigration inspection affords excellent accommodation.

Prescott.—Improvements and other much needed equipment have now been provided by the ferry company on the dock at Prescott.

Buffalo.—The Crystal Beach Ferry Company have provided the necessary accommodation at Buffalo for the inspection of passengers travelling on the company's steamers to Crystal Beach.

Sarnia.—The Port Huron-Sarnia Ferry Company have changed and improved the landing stage at Sarnia, where suitable accommodation has also been provided for inspectional work.

Edmundston.—The International bridge across the St. John river has been erected at Edmundston, but an office has not yet been provided at the bridge head.

INVESTIGATION

There are three investigating officers who exercise the power and discharge the duties of a Board of Inquiry at any place in Canada other than at a port of entry.

The investigating officer for Ontario heard 397 cases and conducted 147 investigations.

The investigating officer for the province of Quebec heard 118 cases and conducted 1,207 investigations. The investigating officer for the province of Quebec has also been placed in charge of the investigational branch in the Montreal agency under the jurisdiction of the agent.

The investigating officer for the Maritime Provinces heard 21 cases and conducted 42 investigations. This officer also visited 206 homes where British immigrant children had been placed.

The investigating officers visit regularly all penal institutions and hospitals for the insane within their respective districts. If any inmate of such institution is subject to deportation a complaint is at once submitted and an order issued for examination under section 42 of the Immigration Act.

CATERING

St. John.—The lunch counter and dining room at St. John were placed under the management of an officer of the department, the object being to furnish settlers with food and other necessary supplies at the lowest possible prices. After payment of all charges there was a surplus of $571.71.

The purchase and sale of supplies by the caterer at St. John are checked by the travelling auditor who renders valuable service in this work.

Montreal.—The dining room in the Immigration building at Montreal is also under departmental management. During the year 43,870 meals were served to immigrants, seamen, etc., at a net cost of 21 cents per meal.

Quebec.—Tenders were called for the privilege of operating the dining room and lunch counter in the Immigration building at Quebec and the contract was awarded to a local caterer. Numerous complaints have been received regarding the catering service in the Immigration building. Investigations were held and the statements and evidence are of record in the department.

Halifax.—The catering privileges at Halifax have been awarded for several years to a caterer against whom there have been no complaints and whose services, I am informed, have been satisfactory.

REPORT OF THE COMMISSIONER OF IMMIGRATION, WESTERN DIVISION, THOMAS GELLEY

IMMIGRANTS FROM THE BRITISH ISLES AND EUROPE

Following out the usual practice, trains arriving in Winnipeg with immigrants, from Atlantic ocean ports, have been met by our officers who have assisted these immigrants with any information they might require, such as changing of trains or their stop-over in Winnipeg, and, where they have so desired, they have been directed to the Immigration Hall to take advantage of the free accomodation offered therby.

As in former years, many expressions of gratitude have been received from families, particularly those with children who have been able to receive this accomodation, and where they have had no friends to meet them upon arrival in Winnipeg.

In addition to the trains being met at Winnipeg, our officers at Port Arthur, Fort William and Fort Frances, inspect the trains coming westward for the purpose of seeing that the cars are in proper condition and to see if any of the immigrant parties have any cause for complaint or require any information.

IMMIGRATION HALL, WINNIPEG

During the twelve months, the Winnipeg Immigration Hall accommodated and sheltered 1,790 immigrants, and these immigrants have stayed on an average of six days in the hall. Out of the total number of immigrants accom-

modated, 168 were supplied with meals. In addition to the number of immigrants who were supplied with meals, there were 391 deports detained and fed, and the number of meals supplied to them was 24,250; 1,075 meals were also supplied to the matron, so that a total number of meals, amounting to 34,402, were supplied in our building.

IMMIGRANTS FROM THE UNITED STATES

During the year 8,838 immigrants were admitted through ports in the Western Division, as compared with 10,619 during the previous year, a decrease of 1,781.

CASH, STOCK AND EFFECTS

The amount of money, stock and effects brought into Canada by the above immigrants, shows a falling off from the previous year. The figures are as follows:—

	Amount of Cash	Value of Effects
1922-23	$ 2,132,420	$ 622,018
1921-22	3,148,853	726,989

REJECTIONS

There was also a very noticeable reduction in the number of persons who were rejected, namely, in 1922-23, 854, as compared with 2,246 in 1921-22.

APPEALS AGAINST REJECTION

Of the 854 who were rejected, 102 appealed against their rejection, and of the 102, 52 appeals were sustained and 50 dismissed.

NON-IMMIGRANTS

The total number of non-immigrants crossing the border by train or highway, was 512,090. This is an increase over last year's figures, which were 471, 506, and is mainly explained through the increasing use of the automobile for touring purposes.

DEPORTS FROM THE UNITED STATES

Seventy-three persons were deported from the United States to Canada during the year, through ports in this division.

FARM LABORERS

The total number of farm laborers admitted through border ports in this division was 4,120, as compared with 3,329 last year. As in other years, the large majority of these were admitted through North Portal, mainly for the purpose of supplying the southern part of Saskatchewan with the necessary supply of farm labour.

THEATRICALS, CIRCUS PEOPLE, ETC.

Altogether 4,500 persons belonging to theatrical or circus organizations passed through ports in this division. Many of these were under bond. During the year we have been remarkably free from any trouble in this direction.

TOTAL NUMBER OF INSPECTIONS

The above figures show that altogether 526,282 persons were inspected and it will be noted that as only 8,838 were immigrants, that this number represents only about 2 per cent of the total number of persons inspected.

PORT STATISTICS

The following statement shows the number of admissions, rejections, appeals, prosecutions and non-immigrant inspections, at each port in this division:—

—	Admissions	Rejections	Appeals		Prosecutions	Non-immigrants
			Sustained	Dismissed		
Bannerman	49	4	.....	.....	.....	1,472
Big Muddy	26	1	.....	.....	.....	354
Boissevain	6	.....	.....	.....	.....	203
Calgary	.....	.....	.....	.....	.....	147
Cardston	9	.....	.....	.....	.....	30
Carievale	5	.....	.....	.....	.....	.....
Cartwright	.....	.....	.....	.....	.....	1,185
Coutts	1,240	145	12	8	10	17,192
Crystal City	1	.....	.....	.....	.....	2,152
Deloraine	5	.....	.....	.....	.....	348
East Poplar River	1	.....	.....	.....	.....	3,900
Edmonton	9	2	.....	.....	.....	.....
Emerson	2,013	148	5	3	.....	46,161
Estevan	.....	.....	.....	.....	.....	1,907
Fort Frances	449	137	11	10	1	241,102
Fort William	8	1	1	.....	.....	379
Gretna	247	47	.....	.....	.....	22,406
Haskett	22	.....	.....	.....	.....	2,106
Killarney	4	.....	.....	.....	.....	845
Kingsgate	1,989	53	2	.....	1	23,725
Marienthal	6	.....	.....	.....	.....	6,419
Morden	.....	.....	.....	.....	.....	175
Newgate	87	15	.....	.....	.....	4,903
Northgate	61	4	.....	3	.....	855
North Portal	2,088	233	16	18	31	51,611
Pigeon River	21	11	.....	.....	.....	18,503
Pinhorn	13	.....	.....	.....	.....	18
Port Arthur	12	23	5	8	.....	4,209
Rainy River	45	4	.....	.....	.....	46,366
Roosville	3	.....	.....	.....	.....	4,803
Snowflake	36	6	.....	.....	.....	334
Sprague	61	18	.....	.....	.....	1,782
Twin Lakes	41	.....	.....	.....	.....	4,463
Waskada	.....	2	.....	.....	.....	107
West Poplar River	80	.....	.....	.....	.....	1,269
Willow Creek	198	.....	.....	.....	.....	659
Winnipeg	3	.....	.....	.....	.....	.....
	8,838	854	52	50	43	512,090

AUTOMOBILE TRAFFIC

This class of traffic is still on the increase, particularly on Sundays and holidays, and necessitates our inspectors being on duty practically twenty-four hours per day. The completion of the Banff-Windermere Highway next June, will, no doubt, result in a larger increase in automobile traffic through the ports in eastern British Columbia and western Alberta. During the year, there was a noticeable increase at the following ports:—

	1922-23	1921-22	
Cartwright	1,185	824	Rock and Killarney Lakes.
Crystal City	2,152	1,979	New Sunshine Highway.
Gretna	22,406	13,144	Alternate route to Jefferson Highway.
Kingsgate	23,725	14,931	Main roads to Banff and mountain resorts.
Twin Lakes	4,463	3,404	
Marienthal	6,419	5,562	
Estevan	1,907	.....	New routes to Regina and Saskatchewan points.
Northgate	855	364	
W. Poplar River	1,269	686	
Pigeon River	18,503	15,284	International Scott Highway between Duluth and Port Arthur.

CASH BONDS

During the year the amount of cash bonds handled through the offices in this division was as follows:—

Cash bonds collected	$ 28,640
Cash bonds refunded	20,196
Cash bonds forfeited	1,230
Cash bonds on hand	7,214

MINISTER'S PERMIT FEES

In addition to the entries under Minister's Permit at ports in this division, a number of cases were referred to this office for the collection of permit fees from relatives belonging to immigrants detained at different ocean ports, as a result of which $110 was collected through this office.

PROSECUTIONS AND FINES

During the year, there were 43 prosecutions undertaken by officers of this division against persons for infractions of the Immigration Act, and convictions obtained in each case. This amount, however, shows a decrease from the previous year, when 133 took place. The figures for 1921-22, however, were unusually large on account of a large number of prosecutions taking place during the summer of 1921, when so many I.W.W's and other undesirables were being driven out of the cities and towns in the United States and were crossing over into Canada. The salutary effect obtained by these prosecutions, however, acted as a deterrent and the beneficial result derived thereby has been shown in this year's figures. Out of the 43 cases, 32 paid fines to the amount of $4,250.

INVESTIGATIONS

There continues to be an increase in the number of investigations performed in this division. Altogether 2,440 investigations have been made by officers in this division, of which 196 were Chinese investigations. Last year the total number of investigations was 2,286, and the year before, 1,835. These do not include boards of inquiry or the numbers of incidental investigations at the border but represent individual cases in the interior, for which files have been created in the head office at Winnipeg.

BOARDS OF INQUIRY

There has also been an increase in the number of boards of inquiry, and the figures are as follows:—

In Winnipeg		198
By investigating officers from Winnipeg		327
By investigating officers from Calgary		144
By investigating officers from Edmonton		116
		785
Figures for 1921–22		779
Increase		6

The above figures of course do not include boards of inquiry at border ports of persons seeking to enter or land, but are cases where entry had already been gained and the question of the right to remain in Canada was open for decision.

CHINESE

The amount of work in this branch continues to occupy a good deal of time and the new situation created by the amendments to the Narcotic and Drug Act, whereby machinery is provided for the deportation of aliens, irrespective of the fact that they may have acquired Canadian domicile, has been taken advantage of in a number of cases, and the deportation of undesirable Chinamen ordered. A separate record has been kept of the number of Chinese investigations conducted by different officers in this division, which during the year was 196.

FREIGHT BOAT CREWS

During the year 1,093 manifests were collected from the masters of vessels arriving at Port Arthur and Fort William, in accordance with section 52. These manifests contain the names of 24,815 men employed on the boats. But of this large number of seamen we were notified of only five cases of men who were left behind, and these cases were satisfactorily adjusted.

DETENTION BUILDINGS

The matter of moving the Detention building at Coutts, Alberta, has been accomplished during the year, and we now have a very satisfactory building placed on a concrete foundation with full size basement, furnace, and situated at the south end of the Coutts railway depot, which is a great improvement over the old conditions.

The question of the erection of a new Detention building at North Portal, however, is still under correspondence with the Canadian Pacific Railway. Our present building there is in a very poor condition. There is no possibility of securing any heat in the detention rooms, with the result that it is impossible to detain deports there during the winter months.

IMMIGRATION HALLS

The following is a list of the Immigration Halls in the Western Division outside Winnipeg, together with the number of immigrants who obtained accommodation therein during the year:—

Athabasca	13	
Edson	11	
Grand Prairie	22	
Grouard	6	(Now
North Battleford	174	closed)
Peace River	73	
Prince Albert	54	
Spirit River	108	
Emerson	17	
North Portal	106	
Edmonton	1,045	
Total	1,629	

DEPORTATIONS

The number of deportations effected through this division was 521, a slight decrease from last year, when 584 deportations were effected, but still a large increase over the two previous years of 221 and 125 respectively. The nationalities of the persons deported were as follows:—

British	348
United States	115
Chinese	19
Italian	4
French	5
Danish	5
Dutch	2
German	3
Serbian	1
Finnish	3
Austrian	4
Norwegian	1
Polish	1
Greek	1
Swedish	2
Belgian	3
Mexican	1
Spanish	1
Czecho-Slovakian	1
Bohemian	1
	521

GRAIN WAREHOUSE, WINNIPEG

Our various agents in the United States, when visiting Winnipeg, have been in general agreement regarding the good results achieved by the exhibition of the various grains, grasses and vegetables shipped from our grain warehouse to the large state and county fairs in the United States. I have received a number of clippings from the United States press in praise of the exhibits which we prepared.

34,664 samples prepared from various grains and grasses.
3,832 feet of oat and flax rope.
150 large and half sheaves.
571 cases made and used in forwarding the above.
274 boxes containing threshed grain.
456 crates containing vegetables.
102 school boxes containing grain-in-straw and grasses.

RENTING OF FARMS

In order to co-operate with the banks, railways, Canadian Colonization Association and our agents in the United States, the various bank and railroad agents in the West were asked to send to this office a list of the farms in their respective districts which were available for rent. We commenced this only about the beginning of March, but up to the end of the fiscal year 201 completed forms were received from farmers in the West who desire to rent their farms. Full particulars regarding same were then sent to the department at Ottawa, our agents in the United States, and other interested parties, in order that full particulars might be placed before intending settlers as an inducement to come to Canada to rent farms, in cases where they are unable, through lack of capital, to purchase lands.

PROSPECTIVE SETTLERS

Inspectors at our border ports were instructed, where possible, to secure from settlers the names and addresses of any of their friends who might be

interested in coming to Canada. The names were then forwarded from our different border ports to this office and from here, we sent a supply of maps and literature regarding Western Canada, to the parties concerned, and also forwarded such names and addresses to our agents in the United States, in order that they may also get in touch with these prospective settlers.

PERSONS LEAVING CANADA AND THEIR SUBSEQUENT RETURN

Particularly during the last few months of the year, reports were circulated throughout the press and other channels, that large numbers of settlers were leaving Canada for the United States and Mexico. In many cases these reports have been found to be exaggerated.

Nearly every year as soon as building operations cease in the West, a number of artisans, mechanics and other labourers go to California, and other states in the Union, where the climate permits of all-year-round building operations, but very few go with the intention of remaining. Owing to the building booms in the United States during the last winter, a larger number than usual were attracted, but while the lure of plentiful work and high wages induced a larger number to go to the United States, yet many of them found that when they arrived at their destination, work could not be found and returned to their homes in Canada.

Then again, last spring, and also in the fall, a number of Mennonites, because of their objection to comply with the Provincial School Act, decided to emigrate to Mexico. These are, however, beginning to drift back again in small parties. On being examined at the border by our inspectors as to the reason for their return, they stated that conditions in Mexico were found to be very different to the conditions which they were led to believe were in existence there. They complain of the barrenness of the country and the heat and continual sand storms; that food and clothing were very difficult to secure, and prices extraordinarily high, being compelled to pay 5 cents per pound for rolled oats; that owing to drought they had no crop last year; that those who summer-fallowed were going to make another attempt at securing a crop this year, and that if they were unsuccessful they would no doubt all return again to their old homes in Canada; that there were no schools at all, and that the real estate agents who induced them to go to Mexico would receive very harsh treatment from them if they could be located.

Then again, a number of farmers who for various reasons decided to leave Canada during the last year or so to farm in the States, are found to be returning to Canada, having found out that while possibly in certain districts they were unfortunate in Canada in not getting good crops, yet the opportunities south of the line are no better than can be found here. As a result of these different causes, throughout the month of March, 1923, the usual spring influx of new settlers has been materially added to by the number of former Canadians who are returning to take up their residence in Canada.

APPLICATIONS TO FACILITATE THE LANDING OF RELATIVES

The number of applications received from persons in Western Canada, who desire their relatives to come to Canada from various countries, is still on the increase and occupies quite a large share of our correspondence. Altogether, 2,385 applications were received during the year. This is an increase of 585 over the previous year.

SETTLEMENT OF EX-MEMBERS OF THE ROYAL IRISH CONSTABULARY

During last summer a number of ex-members of the Royal Irish Constabulary settled in Western Canada, and applied for a commutation of their

pension in order to set up in business for themselves, or to purchase homes in Western Canada. About eighty of these cases have been reported on through this office. It would appear, however, that the majority of them were under the impression that after proceeding overseas all they had to do to receive a commutation of their pension, was to make application for same, not recognizing the fact that it is in their interests the department, at the request of the Irish office, is making inquiries into the particular purpose for which they require their money. Some of these investigations have entailed quite an amount of correspondence and time, and where it has been thought to be in the interest of these new settlers to recommend they receive a commutation of their pension, same has been recommended by this office.

BRITISH IMMIGRANT CHILDREN

As requested from time to time, reports have been made by my officers regarding British immigrant children, who have been placed in employment in this division. These reports cover both the health and condition of immigrant children, as well as the conditions of the homes in which they are placed or treatment accorded to them. In nearly all cases, it is reported that these children are found to have been placed in respectable homes and like the new work in their land of adoption. Altogether, 36 inspections were made during the year.

WINNIPEG CORRESPONDENCE

As a result of the general increase in the work of this division, there has been a corresponding increase in the amount of correspondence during the year. The figures kept in the file room show that 40,436 letters were received, as against 39,057 last year and 34,374 the previous year, and that 39,890 were sent out, as compared with 35,010 last year, and 30,635 the previous year.

REPORT OF THE COMMISSIONER OF IMMIGRATION, PACIFIC DIVISION, A. L. JOLLIFFE

During the fiscal year ended March 31, 1923, there has been a considerable increase in the number of persons admitted to Canada at ports of entry in the Pacific District, as compared with the preceding twelve months. This increase is confined altogether to the non-immigrant classes.

There has been a decrease in the number of immigrants landed at international boundary ports and at ocean ports. This has been due to general industrial conditions on the Pacific coast, and to the restrictive regulations in operation at Pacific ocean ports. The decrease at ocean ports is practically confined to the Oriental races. The total number of immigrants landed was 3,248, as compared with 4,700 for the previous year.

STATEMENT OF ADMISSIONS, REJECTIONS, APPEALS, ETC., AT OCEAN PORTS

Port	Admissions	Rejections	Appeals			Non-immigrants admitted	Ships' crew examined	Administrative fines applied
			Sustained	Dismissed	Entry by permit			
Vancouver	797	113	14	29	6	10,510	785	5
Victoria	614	40	2	22	1	6,268	627	4
Other ports	.....	.....	.....	.....	.....	19,598	536	.....
Totals	1,411	153	16	51	7	36,376	1,948	9

ADMINSTRATIVE FINES

Nine administrative fines were applied, totalling $1,420, all of which were assessed against transportation companies. Of these seven were for bringing immigrants to Canada suffering from infectious and contagious diseases and two for failure to comply with regulations relating to the reporting of seamen.

INSPECTION OF SEAMEN

There has been an increase of over 15 per cent in the number of vessels inspected by officers of this department, as compared with the previous fiscal year. Changes have been made in the handling of crew manifests which have resulted in a closer check of ships' crews and a more careful observance of departmental regulations on the part of ships' owners, agents and masters.

DETENTIONS AT OCEAN PORTS

During the period under review 10,714 persons were detained in immigration buildings for investigation, examination, etc., to whom a total number of 67,377 meals were supplied. From the statement which follows it will be observed that there have been fewer detentions in this district as compared with the previous fiscal year.

	1921-22	1922-23
Number detained at Vancouver	12,864	7,438
Number detained at Victoria	4,074	3,276
Number of meals supplied at Vancouver	120,835	51,761
Number of meals supplied at Victoria	24,878	15,616

STATEMENT OF ADMISSIONS, REJECTIONS, APPEALS, ETC., AT BORDER PORTS

Ports	Admissions	Rejections	Appeals		Prosecutions	Non-immigrants admitted
			Sustained	Dismissed		
Aldergrove	10	8	.....	.....	2	34,760
Cascade	17	.....	.....	.....	.....	7,209
Dawson, Y. T	72	13	.....	.....	.....	.....
Douglas	33	99	.....	3	.....	39,400
Grand Forks	33	17	.....	.....	4	3,060
Huntingdon	113	78	.....	6	1	76,782
Osoyoos	64	9	.....	.....	4	16,856
Pacific Highway	132	79	.....	7	2	109,301
Prince Rupert	3	2	1	2	.....	6,826
Seattle, Wash	356	172	3	13	.....	101,527
Vancouver	119	8	.....	5	5	.....
Victoria	42	30	.....	.....	.....	18,478
Waneta	77	8	.....	.....	.....	4,516
White Pass	51	1	3	.....	.....	6,328
White Rock	632	503	8	29	2	55,741
Other ports	83	7	2	1	.....	48,891
Total	1,837	1,034	17	66	20	529,675

At boundary ports the increase in automobile traffic is particularly noticeable and the handling of this particular work necessitates long inspection hours, and careful work on the part of the officers handling the same.

MONEY DEPOSITED IN LIEU OF BONDS

Port	Number of deposits	Total amount	Amount refunded	Amount forfeited	Amount pending
		$	$	$	$
Vancouver	176	114,350	89,875	5,550	18,925
Victoria	164	95,630	68,600	.....	27,030
Other ports	71	4,350	4,250	.....	100
Totals	411	214,330	162,725	5,550	46,055

During the year 556 Boards of Inquiry were held in this district, as follows:—

Vancouver	225
Victoria	69
Places other than ports of entry	262
Total	556

Of the above, 253 boards were held in the cases of aliens in gaols, penitentiaries, mental hospitals, etc., 156 in arrest cases, and 147 in the cases of passengers applying for admission.

ARREST CASES

A total number of 156 persons were arrested by officers of the department during the period under review and their cases disposed of as per the following statement:—

—	Entered by stealth	Entered as non-immigrants and remained	Undesirables under sec. 40	Entered after rejection	Illegal entry under Chinese Act sec. 7, (b)
Arrested and deported	52	29	42	9	1
Arrested and admitted	7	6	5	1	.....
Waiting deportation	2	.....	1	.....	.....
Waiting decision on appeal	1	.....	.....	.....	.....
Totals	62	35	48	10	1

PROSECUTIONS

Informations were laid and prosecutions conducted in twenty instances, all covering deliberate violation of the Immigration Act, and convictions were secured in each case. The various sections under which the charges were laid are given below:—

Section 33, subsection 7 (Entry by stealth)	15
Section 42, subsection 4 (Entry without the consent of minister after rejection)	5
Total	20

Ten of the aliens prosecuted paid fines totalling $585 and the others served terms of imprisonment. All aliens prosecuted were finally deported.

DEPORTATIONS

Two hundred and seventy persons were deported from the Pacific Division, of which 193 were deported from Pacific Coast ports and 77 were taken east for deportation by deportation officers from other divisions. Causes for deportation and nationality of persons deported will be found in statements given below.

——	To United States	To Other Countries
Accompanying	7	4
Criminality	74	15
Drug addicts and peddlers	1	32
Immorality	2	.....
Insanity	3	36
Mentaliy defective	.....	3
Prostitution	3	.....
Public charges	.....	35
Tuberculosis	.....	1
Venereal disease	1	.....
Other causes	37	16
Totals	128	142

NATIONALITY OF PERSONS DEPORTED

Arabian	1
British	85
Chilian	1
Chinese	39
Danish	2
Finnish	1
Greek	3
German	2
Italian	3
Japanese	1
Newfoundlander	1
Norwegian	5
Philippino	1
Portuguese	1
Swedish	1
Serbian	1
American	122
Total	270

DRUG ADDICTS

On June 28, 1922, the Opium and Narcotic Drug Act was amended to provide for the deportation of aliens convicted under certain sections of the said Act, irrespective of the acquisition of domicile under the Immigration Act.

Subsequent to this date, a total of thirty-three aliens who had served terms of imprisonment as drug addicts, or peddlers, were deported from ports in this division. Of this number twelve deportations originated in the Eastern and Western Divisions.

On March 31, 1923, twenty-two aliens were under orders for deportation, to take effect on the completion of sentence, and twenty-five persons were still under investigation.

Deportation proceedings under the above-mentioned Act have been contested through the courts in fourteen cases. Of these five were unsuccessful and the decisions in the other cases resulted in the release, after expiration of sentence, of twenty-three aliens who had been ordered deported. These releases were necessitated by the issuance of Writs of Habeas Corpus and a decision by the British Columbia Court of Appeals, which is referred to later in this report.

INVESTIGATIONS

At places outside of ports of entry, investigations of various kinds were conducted and 254 board cases handled by special investigating officers. The investigation work during the year has been particularly heavy.

Regular visits have been paid to provincial gaols, penitentiaries, mental hospitals, sanitoria and other public institutions by investigating officers, and the cases of all aliens in such institutions have been carefully investigated with a view of establishing their status in Canada. The cases of aliens convicted under the Opium and Narcotic Drug Act have received particular attention.

The value of the work performed by the investigating staff is clearly demonstrated by the following quoted letter, received from the Medical Superintendent of the Public Hospital for the Insane at New Westminster:—

> "In preparing data for the report of hospital operations for the hospital year ending March 31, 1923, I am pleased to find that we have successfully returned to their native country some thirty-six (36) insane persons through the active assistance and co-operation of your department.
>
> "This number includes some cases in which the investigation has been of very long standing and very difficult and we have received material assistance from your investigating officer during his visits to the hospital. I certainly trust that the active co-operation between your department and our hospital may continue and that we may continue to enjoy he help of your investigator.
>
> "There is no doubt whatever that the province has been assisted financially to a very great extent in being relieved of the maintenance of indigent patients, who properly belong in other countries and have been repatriated through your department."

ADMISSION OF SPECIAL LABOUR

During the year 72 applications were filed from employers in this district for the admission of labour, which it was claimed could not be procured in Canada to fill vacancies occurring. These applications covered 451 positions; as the result of investigation by the Employment Service, 310 were refused and the positions filled by persons resident in Canada; admission was approved of in 141 cases. It will thus be seen that the close co-operation between the Employment Service and this department has produced excellent results, particularly in view of the industrial conditions which existed during a considerable part of the period under review.

HABEAS CORPUS

Twenty-nine applications for Writs of Habeas Corpus were before the courts in this district during the year.

Fourteen writs were granted resulting in the release of the applicants and fifteen applications were refused. Of the total number of cases, fourteen developed from deportation proceedings under section 10 (B) of the Opium and Narcotic Drug Act, and section 43 of the Immigration Act, eleven from applicants for admission and four from persons arrested as undesirables under the provisions of the Immigration Act.

Twenty-seven of the applications for Writs of Habeas Corpus were made on behalf of persons of Chinese origin.

Two important decisions were handed down by the British Columbia Court of Appeals during the year.

The first established the right of appeal by the Crown against the issuance of a Writ of Habeas Corpus, which had secured the release in Canada of a rejected immigrant; and also upholding the effective operation of section 23 of the Immigration Act. This decision has effectually stopped the numerous applications to the courts to prevent the deportation of rejected aliens properly refused admission to Canada by boards of inquiry in accordance with the provisions of the Immigration Act.

The second case established that the deportation of an alien as provided for under section 10 (B) of the Opium and Narcotic Drug Act constitutes a criminal proceeding and that there is no appeal against the issuance of a Writ of Habeas Corpus securing the release of an alien ordered deported in accordance with the said section.

Chinese Immigration

There has been a decrease of 59 per cent in the number of Chinese persons landed in Canada during the period ending March 31 in comparison with the previous year, as will appear from the statement given below:—

	1921-22	1922-23
Admitted on payment of tax at Vancouver	1,030	465
Admitted on payment of tax at Victoria	429	182
Admitted exempt at Vancouver	171	34
Admitted exempt at Victoria	115	24
Exempt applications rejected at Vancouver	234	118
Exempt applications rejected at Victoria	101	18
Exempt cases admitted on appeal at Vancouver	6	8
Exempt cases admitted on appeal at Victoria	1	1
Paid tax after exempt rejection at Vancouver	65	60
Paid tax after exempt rejection at Victoria	30	8
Persons deported after rejection at Vancouver	132	83
Persons deported after rejection at Victoria	95	36
Persons admitted under bond to other countries at Vancouver	4,747	2,311
Persons admitted under bond to other countries at Victoria	886	938
C. I. 9 Registration at Vancouver	3,884	3,286
C. I. 9 Registration at Victoria	3,546	2,318
Bonds forfeited—Vancouver	$4,500	$6,000
Bonds forfeited—Victoria		

A total of 203 persons applied for admission under the exempt provisions of the Chinese Immigration Act, of which number 127, or 62½ per cent, were unable to qualify under the clauses referred to. The head tax was paid by the majority of persons thus rejected and in the other cases deportation was effected.

In a number of cases, stowaways were found on vessels arriving from Chinese ports and investigation indicated that they were labourers, who had stowed away on passenger ships with the intention of securing illegal entry into Canada. This movement no doubt resulted from the strict application of the labour exclusion order in effect at Pacific Coast ports. In order to cope with this situation, all possible precautions were taken, including the searching of the vessels on arrival by Immigration and Customs inspectors, assisted by other federal officers, and it is felt that the steps taken have effectively checked any extensive movement of this kind.

REPORT OF THE SUPERVISOR OF THE WOMEN'S DIVISION, MISS M. V. BURNHAM

The Women's Division of the Department of Immigration was formed in 1919, and since that time the work has steadily expanded and the staff increased. Three important things have been accomplished since the addition to the department of this staff of Canadian women:—

(1) Women in Great Britain wishing to come to Canada are interviewed by women who, on account of their knowledge and experience, are able to give accurate information.

(2) Travelling has been made much easier for all unaccompanied women and children, as all ships arriving at Atlantic ports are met by a woman officer, and a Government conductress is on duty on the train from the port inland in order to give advice and assistance.

(3) The Women's Division has a thorough follow-up system in connection with all women coming for household work, and careful records are kept of all unaccompanied women coming to Canada. This gives the women's organizations a feeling of confidence, and the supervisor is ready to co-operate with all organizations that are doing follow-up work amongst settlers.

During the past year, the supervisor has visited the Canadian Women's Hostels throughout Canada, many of the Y.W.C.A.'s and local offices of the Employment Service, as well as the Joyce Hostel at Kelowna, B.C. She has also called at all the Canadian Emigration offices in Great Britain, and in London met the Committee of the Society for the Oversea Settlement of British Women, the United Services Fund, the Fellowship of the Maple Leaf, and other organizations. The offices at The Hague, Antwerp and Paris were also visited. This all leads to a more complete understanding of the problem affecting the immigration of unaccompanied women to Canada.

WOMEN OFFICERS IN GREAT BRITAIN

In Great Britain there are six women officers, a principal woman emigration officer and an assistant at each of the ports of London, Liverpool and Glasgow, whose duty it is to interview women wishing to come to Canada. The number of interviews per month vary, the average at each office being about 1,000. During a busy month, the report shows 2,000 interviews. Towards the end of the fiscal year, inquiries from people wishing to come to Canada were much more numerous than during the preceding year. It is necessary that all women coming to this country should be most carefully interviewed by a Canadian woman in order that we may secure a type of women who will settle down in Canada and become good citizens; also, there are certain classes, such as factory workers, that must be discouraged because we already have an adequate supply of these workers in Canada.

STEAMSHIP CONDUCTRESSES

In looking after the welfare of women and children the connecting link between the women officers of the department in Great Britain and those in Canada is the steamship conductress. These conductresses are employed on all boats under the Canadian Pacific, White Star-Dominion, Cunard and Anchor-Donaldson Lines. They have all been carefully chosen and are women of tact and good judgment, who are rendering a great service to the travelling public. The co-operation of the steamship companies in this respect is much appreciated by the department and by all women travelling alone.

WOMEN OFFICERS IN CANADA

In Canada, a woman officer of the department meets every ship upon arrival, conferring with the steamship conductress regarding any cases of women and children requiring special attention. Unaccompanied women and children are constantly in touch with the woman officer from the time they land at the port until they get on their trains, and in this way they receive much help and advice. During the past fiscal year, over 200 ships were met by our officers, and there were 18,257 women and 9,366 children arrived at the Atlantic ocean ports. The woman officer co-operates with the representatives of the various

organizations who are present in the immigration building, such as the Y.W.C.A., the various churches, and the Red Cross Society. The principal woman officer is also a member of all boards of inquiry affecting unaccompanied women, and she visits women in medical and civil detention every day.

Conductresses

The conductresses on the trains have worked hard and faithfully during the past year assisting women and children. There are a great many women to be helped, and there are always children who require special supervision coming forward alone, destined to relatives. On one boat there were eight children, varying in ages from a baby to a child of fifteen years, travelling alone and destined to relatives. The conductress, in these cases, is indeed a mother. After every trip, the conductress sends in a report to headquarters, and complete records are kept of all these parties. The conductress reports any girl requiring special care or attention, and the case is then dealt with through the head office at Ottawa, the name of the girl being reported to the proper organization to deal with the matter. The conductress carries on these trips a first-aid kit and emergency supplies, and is turned to in cases of illness or accident. As the conductresses are almost all trained nurses, they are able to give valuable assistance. They also arrange for people to be met at the different stations.

The conductress' position is a most responsible one, because one of her duties is to endeavour to keep all the people in a good temper under very trying conditions of heat and weariness. This officer has an opportunity of doing a great deal of social service work on the trains. Special cars are provided for unaccompanied women, not in order to separate them from their friends, but so that they may sleep under the special care of the conductress. The special car becomes quite a social centre through the day; all the women's friends are welcomed, and the conductress really acts in the capacity of a hostess during a long trip to the West.

Canadian Women's Hostels

Canadian Women's Hostels are situated at the following points in Canada:—

Nova Scotia—163 Young Ave., Halifax.
New Brunswick—35 Union St., St. John.
Quebec—31 Drummond St., Montreal.
Ontario—72 Carlton St., Toronto.
Manitoba—130 Austin St., Winnipeg.
Saskatchewan—1839 Lorne St., Regina.
Alberta—120 Fourth Ave., West, Calgary.
British Columbia—Y.W.C.A. at 997 Dunsmuir St., West, Vancouver, serves as Hostel.

Grants are given to these hostels by the Dominion and Provincial Governments, and they are also given an allowance by the Dominion Government to cover from twenty-four to forty-eight hours accommodation of immigrant girls coming forward seeking employment as house-workers. The girls look upon these hostels as homes, and always go to them when changing situations or when in any difficulties. They are also encouraged to spend their free evenings there, and the hostels are really used as clubs. The newly arrived girl is always given first consideration and is made to feel at home. At the end of every month, the hostels send in reports to the Supervisor of the Women's Division, outlining the work done during that time.

FOLLOW-UP WORK

The follow-up work has grown a great deal during the past year, on account of the increase in the number of women immigrants, and the importance of this work cannot be over-estimated. This work is done by the Women's Division in three ways:—

(1) Through the hostels, which work in co-operation with the churches and local welfare organizations.

(2) Through follow-up letters which are sent to the employers of girls who do not pass through the hostels.

(3) Through the officials of the Immigration Department.

The hostels have sent in reports on 781 newly arrived girls who were seeking employment as houseworkers, but in addition to this they have accommodated a large number of transients as well as girls who had been in Canada some time and had come back for various reasons to these hostels. The largest number have come destined to the Toronto hostel, the second largest to Montreal. The work done at the Montreal hostel differs from that done at the other hostels, on account of the fact that many transients destined to points farther west are accommodated there. Women and children are always given a warm welcome.

During the past year, 1,780 follow-up letters were sent out, and the replies received indicated that 75 per cent of this number of women are satisfactorily employed as houseworkers. One hundred and twenty-eight are in other employment, and 29 had returned to England. From June 1, 1922, to March 31, 1923, 338 women came out to be married. The names of these women were forwarded to the Chief of the Division of Child Welfare of the Department of Health, who supplied them with health literature. This has proved most valuable, as many of these women were going to outlying districts where it is difficult to get in touch with doctors or welfare organizations.

The Women's Branches of the Employment Bureau send in to this office the names of immigrant girls who apply there for work when they have only been in Canada a month or so. In this way we find out that many girls coming to join relatives apply for other work than domestic within a short time after their arrival.

Departmental records show the following numbers of British houseworkers arriving at the ocean ports during the year ending March 31, 1923:—

English	2,129
Irish	542
Scotch	1,967
Welsh	62
Total	4,700

The provinces of Ontario and Saskatchewan have been advancing fares to houseworkers from Great Britain, and the results are most satisfactory. Each government has a woman officer in Great Britain who travels about interviewing and selecting suitable women. During the past year, Saskatchewan has had about 150 women come forward under this assisted passage scheme.

SOCIETY FOR THE OVERSEA SETTLEMENT OF BRITISH WOMEN

The Society for the Oversea Settlement of British Women is the women's branch of the Oversea Settlement Committee in Great Britain. During the past year, this society sent out 464 women to Canada. They sent six special

parties, ranging in number from 20 to 75, as well as a number of smaller parties on various sailings. Each of these parties was conducted on the train in Canada by a Government conductress, whose report on each individual case was sent back to the society in London. The S.O.S.B.W. have granted loans to cover the passage to Canada of many families, as well as houseworkers, but the majority of the cases assisted were wives coming forward with children to join their husbands in Canada. In each case, before a loan was made this division was asked to make an investigation as to the settlement arrangements in Canada. The reports furnished were of great assistance to the S.O.S.B.W. in deciding whether it was advisable to make grants. In cases where, due to some unusual circumstances, the people in Canada do not commence repayment of their loans promptly, we are asked to make investigations as to their financial circumstances. Frequently we have been able to adjust matters, thus facilitating the collection of outstanding debts by the S.O.S.B.W. There exists between these two women's branches a feeling of mutual understanding and good-will.

EX-SERVICE WOMEN SETTLED IN CANADA

It is interesting to note that since the war 2,498 ex-service women have come to Canada to settle, having been granted free passages by the British Government. This number is composed of members of fifteen different corps, such as the Queen Mary Army Auxiliary Corps, the Women's Royal Air Force, the Women's Land Army, the Voluntary Aid Detachment, etc. These women are endeavouring to keep in touch with each other, and ex-service women's clubs have been formed in Montreal, Winnipeg, Calgary and Vancouver. The women have served through the war, are not afraid of hard work, and are making very good settlers. Canada has received more of these women than any other dominion, Australia coming second with 1,361.

UNITED SERVICES FUND

The United Services Fund is an ex-canteen fund, of which the Governor General of Canada, the Baron Byng of Vimy, is honorary president. A portion of it has been set aside for the benefit of ex-service women in Canada who may require financial assistance in times of illness, and this is being administered by the Supervisor of the Women's Division. During the past year, eight women were assisted; all were deeply touched and appreciative of the fact that their services rendered during the war had not been forgotten.

RED CROSS NURSERIES

Excellent work has been done during the past year in the Red Cross nurseries in the immigration buildings at the ports of Quebec, St. John and Halifax. The workers have welcomed and cheered many weary mothers and comforted numerous tired children. The nurseries are always open; women and children of every nationality are welcomed. On a busy day, it is not unusual to see sixty little tots fast asleep, two or three in each bed. Many parties of children have been given treats upon their arrival, such as ice cream cones, milk, buns, etc.

According to the report of the nurseries, their workers have been on duty at the arrival of 202 ships; 7,153 children and 1,240 infants have been accommodated and looked after; 477 minor treatments have been given, and 1,913 have been visited after arrival at their homes. The number of mothers is not included in the above figures.

The Department of Immigration furnished the space and equipment for the nurseries, but credit for the work done is due to the Red Cross Society.

SOCIAL AGENCIES AND NATIONAL ORGANIZATIONS

The names of immigrant women who have not made good in Canada and with whom any organization is having trouble are sent in to the Women's Division. The greater number of these cases come through social agencies such as the Women's Directory of Montreal, the Big Sisters' Association, the Neighbourhood Workers' Association of Toronto, or through women's organizations such as the Y.W.C.A., etc. Each case is carefully gone into with a view to discovering where the difficulty lies—whether through faulty selection overseas, and if so where the blame falls, or if it is due to lack of follow-up work in Canada. Through our records we are frequently able to give these organizations much helpful information regarding various cases. The following national organizations are interested in work amongst newly-arrived settlers in Canada:—

Canadian Council of Agriculture.
Catholic Women's League of Canada.
Federated Women's Institutes of Canada.
Great War Veterans' Association of Canada.
Imperial Order of Daughters of the Empire.
National Committee of Mental Hygiene.
National Council of Women.
Red Cross Society of Canada.
Social Service Council of Canada
Trades and Labour Congress of Canada.
Women's Auxiliary to the Missionary Society of the Church of England.
Women's Christian Temperance Union of Canada.
Women's Missionary Society of the Methodist Church in Canada.
Women's Missionary Society of the Presbyterian Church in Canada.
Young Women's Christian Association of Canada.

REPORT OF THE SUPERVISOR OF JUVENILE IMMIGRATION, G. BOGUE SMART

Frontispiece

"Juvenile migration is a direct response to what humanity pleads, patriotism wants and Christianity demands—giving the younger generation a chance. It is an Imperial back-to-the-land movement. It places workers in the Dominion at an age when they can most readily adapt themselves to local conditions and learn the methods of their new homeland."

—*British Town Lads on Imperial Farms.*

As one looks back upon the year 1922-23, which has now gone to its account, one may recall a period of fruitful and successful progress in this branch of immigration. We can now count hundreds of boys and young men throughout the agricultural districts of the Dominion whose progress and established prospects supply the highest possible testimony as to the value and success of the work of the various migrating organizations. The great majority of the children and juveniles are comfortably settled and giving employers excellent satisfaction and growing up as farmers.

The number of children and juveniles migrated during the past twelve months did not reach the desired total but this was due to the high cost of transportation and not to the fact that there was any shortage of desirable boys and girls in the old country available for settlement in Canada. The number of employers applying for this class of help largely exceeded that of the previous

year while the supply was but a small fraction of the demand. In the course of the next twelve months, in co-operation with the Overseas Settlement Committee of the British Government, the prospects for a vastly increased influx of young farmers and domestic workers are promising.

The term child migration is used to cover those coming from the British Isles under the age of fourteen—juvenile migration relates to those between the ages of fourteen and eighteen.

The existing financial strain in Great Britain has materially affected the ability of organizations desiring to increase their emigration activities of former years. Besides this, the cost of maintaining the children during their period of training, together with the high prices of the children's clothing and enormously increased rates of ocean travel have prevented even the average annual emigration of these children of pre-war years.

The desire of the Government is to secure a greater influx of settlers who will become industrious and permanent citizens and add to the strength of our national industry, agriculture.

The children come to Canada at various ages as will be seen from the following summarized statement.

NUMBER OF CHILDREN UNDER SUPERVISION, INSPECTED DURING THE PAST YEAR AND THEIR AGES

Under school age (under 5 years)	6
School age (5 to 14 years)	765
Over school age	1,784

The distribution of these young workers covers a vast area.

Provinces	Boys	Girls	Total
Ontario	2,040	754	2,794
Quebec	375	81	456
New Brunswick	97	25	122
Nova Scotia	45	59	104
Prince Edward Island		2	2
Manitoba	28	15	43
Saskatchewan	15	16	31
Alberta	24	13	37
British Columbia	14	10	24
	2,638	975	3,613

The readiness with which the services of these children are sought is conclusive proof of their general adaptability for agricultural employment. In the past 23 years the extent of the demand for these young immigrants is shown by the following figures. From 1900 to March 31, 1923, inclusive, 38,589 children were received and for the same period 451,680 applications were received.

The importation of thousands of boys and girls of ages varying from fourteen to eighteen years, will in a large measure meet the needs of Canada in respect to farm and domestic labour. Thousands of bright, healthy and worthy boys and girls in Great Britain are willing and ready to come to Canada and engage in this kind of employment, if assistance could be given them.

SUPPLY AND DEMAND

The annexed tabular statement does not show a very substantial increase in arrivals during the past twelve months over the previous fiscal year. While this was perhaps disappointing to employers and to those who endeavoured to

supply this needed help, yet it is a source of satisfaction that the children received were of excellent types in point of health and physique and possessed a good understanding of the purpose for which they had come to Canada and what would be expected of them.

Society or Agency	Number of children	Applications received
Dr. Barnardo	226	10,823
Macpherson-Birt	204	1,070
Catholic Emigration Association	199	1,863
National Children's Home and Orphanage	106	554
Mr. J. W. C. Fegan	50	387
Church of England	29	230
Sir J. T. Middlemore	45	142
Salvation Army	308	777
Daykene Farm	17	8
Dr. Cossar	.....	200
Quarrier	.....	884
Mrs. Smyley "The Coombe"	.....	30
Other sources	.....	37
	1,184	17,005

These figures, unfortunately, are not complete as it has been found that numbers of children have been coming to Canada directly, placed by relatives in the old country with relatives or friends in Canada. Various circumstances have brought the arrival of additional children to my notice during the year just ended.

Owing to the fact that the various organizations engaged in promoting the movement have been limited in their financial resources, and this together with ocean rates of travel almost three times higher than before the war, it was found impossible to migrate an increased number, notwithstanding that the material at their disposal—eligible boys and girls—desiring to come to Canada was far in excess of the number available before the war. In this connection, I might add that the pre-war cost was $50 for each boy or girl. In 1920, it was $100; in 1921 it had increased to $165. In 1922, there was a reduction of $15 which brought it down to $150. It is anticipated, however, that some downward modification in transportation expenses may be made during the approaching year.

While the widespread demand for British child and juvenile immigrants in Canada is significant, the shortage of supply is not less so, for only 7 per cent of the children and juveniles required could be supplied. The vital thing is that we have been unable to get enough young people to meet the urgent requirements of our agriculturists and householders.

It was for this reason that the minister of the department instructed me to visit Great Britain during the past summer to study the question with a view of ascertaining if the number of boys and girls annually migrated to Canada could not be made commensurate with the demand. My main purpose was to open up the whole question from the viewpoint of Canada and to impress upon the British authorities and people Canada's superior opportunities for young people who have little to look forward to at home. My mission met with such encouraging results that it is estimated that during the approaching year the number of selected young farm and domestic workers will be much greater than those previously arriving in any single year since the movement began. Canada is destined to move ahead rapidly and we have room for tens of thousands of juvenile emigrants from the United Kingdom.

Since the year 1868, 77,638 children and juveniles have been received and settled throughout the Dominion, a vast array if marshaled together under the

clear skies of Canada. They appear much less numerous when spread over a period of four or five decades. A leading Ontario newspaper recently stated that "no better immigration material is procurable for Canada than those English boys proposed to be sent to Canada with the aid of the British Government, and that country is fortunate that has such sturdy substance for its backbone."

Canada was the only overseas Dominion to which this unique form of migration was directed. The success of the children in Canada was closely followed by the Governments of the Commonwealth of Australia, and has resulted in these countries becoming active competitors with Canada for a steady, annual and practically unlimited migration of boys and girls of all ages to these shores.

Canada has always welcomed these young settlers, especially agriculturists and household workers. They have helped us and at the same time have helped themselves.

Supervision and after care are predominating factors in the success of any movement on behalf of children and particularly in the indenturing and placing in foster homes and situations dependent children settling in a new country.

The children are regularly visited by representatives of the emigrating agencies and of the Government, until they reach the age of 18. The conditions under which the children are placed vary but little and may be briefly stated to be as follows:—

> A prospective employer undertakes to clothe the child properly and provide schooling until the child reaches a stated age. Attendance at church and Sunday school is also stipulated in the agreement which is entered into over the signatures of the superintendent of the home and the employer.

Very few complaints have been made by employers concerning the progress and behaviour of these young workers and such as have reached me were for the most part of a very trivial nature. In proportion to our total immigration during the past year, few of these newcomers have not been satisfactory. It may not be uninteresting to quote the opinions of employers regarding their apprentices.

The following reports are significant of the happy relationship existing betwen the children and those with whom they are living and working:—

H. J., age 15, 1921.

This is a bright, blue-eyed, Irish boy. In conversation Mr. B. said, "I have learned to love this boy, he is so honest and upright, has not a bit of deceit. He will never want for a home while I live."

F. H., age 16, 1920.

"This is the first old country boy we have had and we find Fred, up to the present, a very fine boy, quiet and well behaved and we try our best to make him happy and contented." The boy is quite at home and contented.

D. G., age 17.

This boy has been in the employ of Mr. A. S., farmer, for the past eighteen months or ever since his arrival in Canada in the spring of 1921. He described D. as "a very smart boy; he has given no trouble since he has been with me, and I like him very much indeed. I have to pay him a good wage for his services but he is worth every cent of it." The boy is well satisfied with his situation, and the inspector adds "he is certainly making good."

R. B., age 17, 1920.

R. came to Canada in 1920, and has been with Mr. W. B. for nearly three years. He finds him a good, upright boy and a very willing worker, quiet and of steady habits. "He is growing fast and one would not know he was the same boy that came to me about three years ago." The inspector found him alone and at work with a pair of horses drawing wood for fuel. R. said "I have a fine place, and will stay with Mr. B. as long as he requires me."

W. W., age 18, 1920, c/o Mr. J. D. C.

Mr. C. said, "I have had several other boys on my farm, and while they gave me satisfaction, I have no hesitation in saying that the boy I now have is the best of the lot." He is smart and intelligent and has a bright future before him.

A. C., age 18, 1921, c/o Mrs. E. S.

Mrs. S. expressed herself as well satisfied with A. and stated he is very attentive to his work. When I saw him he was doing a man's work, ploughing in the vineyard behind a splendid pair of horses. I complimented him upon the straight furrows he was making.

M. J., age 15, 1921, c/o Mrs. F. N. M., Marmora, P.Q.

Mrs. M. said, "With a single exception, Matilda is the best girl I have ever had. She is a real home girl in the very best sense of the word. We get on fine together."

D. W., age 14, 1921, c/o Mrs. C. P.

"Doris has a strong advantage in her pleasing personal appearance. She is bright at school and learns housework easily but has not yet got far enough past childhood to appreciate her abilities. Unless present indications fail, she will turn out a first class girl. She is receiving nice treatment."

FORMER JUVENILE IMMIGRANTS

A.T.F., 1907.

Tom as he is called, is still with the people he was placed with on first coming to Canada and he has made a splendid success: Is considered in every way as a member of the family and is treated more in the nature of a son than an employee. Takes an active interest in church and Sunday school work and is Superintendent of the Sunday school.

A.S., 1903.

This is a splendid type of young man, and he has done remarkably well. He has been with the M.P. Company for some years and has risen to have charge of one of the Departments of the works. Served his country in the late war. Resides with widow of his late employer by whom he is considered as a son.

F.J., 1894.

"Fred, is the proprietor of a nice grocery business in the city of London, Ontario and has made good. He has accumulated quite a bit of property and is fast becoming a man of substance."

C.E.K., 1911.

A fine young fellow in every respect—has been with present employer for many years and is spoken of in highest terms. Employer states that he couldn't wish for a better man and that he is one the Home can well be proud of. Considered and treated in every way as a member of the family.

C.P., 1894.

This boy is owner of one of the best farms in the county of Wentworth: is a practical farmer, has made good in every sense of the word and for a number of years past has employed Barnardo boys, whom he has trained and brought up to be good, useful young men.

G.L., 1911.

Since coming to Canada, this young fellow has been in the same locality in the county of N. Is a fine young man in every respect—a competent farm helper, a faithful attendant at church and Sunday school and has always taken an interest in church work, and bears an excellent character.

H.H., 1913.

Employer speaks of this young fellow as being one of the best ever sent out. He is held in high esteem in the neighbourhood of his home where he is well and favourably known. Is a capable farm hand in receipt of a good wage and doing well in every respect.

W. and G.B., 1912.

These brothers have been with same employers in county of Middlesex since coming to Canada and in every sense of the word have made good during the trying days of the war. Employers state that they could not have carried on but for their help and bear testimony to their sterling worth.

The age of the child determines the term of agreement. Short terms of indenture, for boys under fourteen, are unwise, and are apt to create a spirit of discontent. During the first year in Canada, everything is new to them—a new life is before them. They must familiarize themselves with their new surroundings, and get into the ways of the country generally. During this period, it is far better for the child that he should remain where he will be made one of the family and grow up as a member of the household than that he be looked upon as a hireling.

In placing the children, every agreement confers on those taking the children the prerogative of terminating the agreement by giving reasonable notice to the Society, and a similar privilege is reserved by the Society, with the additional right to remove the child should there be sufficient reason to believe that the child's interests are not receiving proper attention or in the event of unfair advantage being taken by the foster parent or employer.

For a boy of fifteen and up to sixteen years of age indentures are usually made for one year and provide for a reasonable wage which includes board but not usually clothing as he is able out of his wages to purchase necessary clothing. In the matter of any advance on wages and expenditures made on his behalf, the employer is required to keep careful account, for the information of the Home.

Classification of the children according to progress may be readily seen in the following report of the inspections of the children during the past fiscal year:—

Homes and situations—	
In very good foster homes and situations	2,408
In good foster homes and situations	137
In unsatisfactory homes and situations	12
State of children's health—	
Very good health	2,467
Good health	94
Uunsatisfactory health	2
General progress at home and at school—	
Making very good progress	2,311
Fairly good progress	240
Unsatisfactory	6
Character and behaviour—	
Very good	2,385
Good or fairly good	164
Unsatisfactory	6
Wage earning	1,426
Adopted	37
Engaged in other occupations than farm work	14
Apprenticed to a trade and self supporting	57
Restored to and residing with relatives	103
Total annual wage paid to above children	$ 173,190
Money in savings accounts	12,199
Serving term in jail	1
In Provincial Institutions	2
Lost track of	14
Returned to England	24
Gone to United States	11

Boys and girls (18 years and over) whose inspections were completed and who are managing their own affairs:—

Homes and situations—	
Very good	260
Fairly good	7
Unsatisfactory	.....
State of Health—	
Very good health	256
Fairly good health	8
Unsatisfactory health	.....
General progress—	
Making very good progress	247
Making fairly good progress	17
Unsatisfactory progress	.....
Character and behaviour—	
Very good	250
Fairly good	12
Unsatisfactory	1

The following is a statistical history of the growth of the movement:—

—	Year	Children Immigrated
Miss Macpherson and Mrs. Birt, London and Liverpool (Canadian Headquarters Marchmont Home, Belleville, Ont.)	1868 to 1923	14,180
Miss Rye and Church of England, Niagara-on-Lake, Ont., and Sherbrooke, Que	1868 to 1923	3,795
Mr. (Now Sir) J. T. Middlemore, Fairview, Halifax, N.S.	1873 to 1923	4,960
The National Children's Home and Orphanage (formerly Dr. T. Bowman Stephenson) Hamilton, Ont	1874 to 1923	2,867
Mrs. Bilbrough-Wallace (Marchmont Home, Belleville, Ont.)	1878 to 1915	5,529
Cardinal Manning (Ottawa and Montreal)	1880 to 1888	1,403
Dr. Barnardo, Toronto, Ont., and Winnipeg, Man	1882 to 1923	25,682
Mr. J. W. C. Fegan, Toronto	1884 to 1923	2,848
Mr. Wm. Quarrier, Brockville, Ont	1890 to 1923	4,074
The Catholic Emigration Association and amalgamated societies, St. George's Home, Ottawa	1897 to 1923	6,197
The Salvation Army	1905 to 1923	1,128
Minor Agencies	1897 to 1923	4,975
Total	.....	77,638

NOTE.—About 75 per cent of the children were boys and 25 per cent were girls of ages varying from twenty months to eighteen years.

The children arrive in Canada with an ample supply of clothing—sufficient for at least their first year's requirements. They are invariably placed in approved homes and situations and under terms definitely stipulated in a legal form of agreement, entered into by the employer or foster parent. After they are placed, the children are visited at least twice by representatives of the Home and this department and no child is permitted to remain in a home or employment where there exists any doubt or evidence that he is persona non grata, overworked or otherwise not properly treated.

The children are seen personally and reported upon individually. It is the first duty of our inspectors to see that the child is happy and receiving proper care.

Since 1921, grants toward the work earned by the various organizations during the past year show a yearly progression, and, as previously indicated, the reports of our inspectors have been exceedingly favourable to both the children and their foster parents or employers.

Recent years have witnessed a remarkable change in public opinion in Canada regarding the importance of a steady flow of people from the United Kingdom. This is true particularly with reference to the migration of boys and girls for farm apprenticeship and assistance in household work.

This change has been a robust one—so general and widespread that the advantages this country offers young people are now more generally recognized in the motherland than heretofore.

This growing consciousness of the immense value of juvenile migration to our vast Dominions and also to Great Britain from a national point of view is but the forerunner of a greater development. Men and women who realized the great importance of this movement in the early years of its history are gratified to learn that an agreement which will result in the migration of a greater number of children and juveniles under the age of seventeen years is about to be entered into between the Imperial Government and the Government of Canada.

It is not within the scope of this report to describe this great and growing movement in its entirety and detail but I desire to say in closing that one can-

not too highly praise the men and women in Great Britain who are giving their time and means to improve the opportunities of necessitous and orphaned children in the old land by providing a more favourable start in life for them than they would have had in their motherland.

REPORT OF MY VISIT TO GREAT BRITAIN, 1922

By direction of the honourable the minister of this department, on June 7 I proceeded to Great Britain for the purpose of making a close examination of the work of the various organizations engaged in the training of children and juveniles with the ultimate view of their migration to Canada.

The purpose of my mission was to place before the minister such facts as would enable him to form conclusions as to the future attitude of the Government in respect to an enlargement of the work of migrating British children to this Dominion. In consequence, I investigated every phase of the subject with a full appreciation of Canada's most outstanding need—population—in these days of agricultural production.

It was soon evident to me that amongst all classes in Great Britain there is a very high appreciation of the economic value of the needy child to the State and benevolent action in his behalf was in evidence everywhere. In the various schools and orphanages, the number of children eligible for migration to Canada vastly exceeds those of previous years. Many of these institutions had waiting lists for admission in excess of former years, and besides this thousands of children left orphans by the war will increase the number.

The early history of these children before admission to these schools was a subject pertinent to my mission. It was ascertained that the outstanding condition of the children was poverty, but the great majority are the children of respectable parents.

The juvenile immigration movement to Canada would receive a great impetus, were assurance given those in the Old Country who have in the past promoted it, that the Government of Canada is prepared actively and sympathetically to co-operate with them in protecting the children's interest and otherwise assist them in carrying forward the work. With the guarantee of this the consent of a parent or guardian—which is imperative and in past years has been a formidable obstacle to the migration of many splendid boys and girls—would be more easily obtained.

I have learned conclusively that the various organizations engaged in the training and emigration of young people from the British Isles, are in no sense financial undertakings, but purely charitable and philanthropic assisted and carried on by voluntary contributions from all classes of people in the Motherland—their aim being reclamation, training and emigration of necessitous children; to protect and qualify them for responsible and useful citizenship within the British Empire by providing them elementary education, moral instruction and a short industrial training; to safeguard them from the imposition and exploitation of interests prejudicial to their future; to provide foster homes and situations for the children by transplanting them in Canada, as farm apprentices and domestic helps. The high character and purpose of the work may be properly designated as not only humane but imperial as well.

It is a cause that is highly regarded by the British Government, whose departments co-operate with the organizations in their work of training the children particularly the Ministries of Health and Labour, Home Office and Education Departments respectively, which departments of Government have direct responsibility for the nation's needy children.

During my various investigations, I have personally interviewed committees charged with the financial support of the various homes and schools,

and I was pleased to learn that these committees were composed of persons who are leaders in business and philanthropic enterprises. Many persons who are most prominent in church and state are carrying the burdens of these praiseworthy endeavours.

Frequently in the course of my peregrinations amongst the schools and homes, and when I looked into the faces of the children and talked to them, these questions continually arose in my mind. Where could Canada get better material for immigration than these boys and girls, and does Canada desire them as farm workers and domestic helps? and shall the emigration of pre-war days be encouraged and extended? Fully 80 per cent of the children and juveniles in state, private and charitable institutions were of good physique and health, and I have not the slightest doubt, would qualify for Canadian citizenship under our immigration regulations. And as I went from school to school the words of the late Lord Grey, former Governor General of Canada, irresistibly came to my mind: "It is not possible to do a greater kindness to the State children of England, than by removing them to the freer and healthier life of Canada: The climate is admirably adapted for the rearing of a fine, noble and strenuous race."

THE CHILDREN PROSPECTIVE EMIGRANTS TO CANADA

The Training Homes and Schools in Great Britain are ever open doors for the reception and care of destitute and necessitous children of every description and they are doing a great service for the children and the Empire at large.

Some of the children may be the offspring of undeserving parents, but the great majority are the children of poor but respectable people, who, by reason of business reverses and other misfortunes have become dependent upon the charity of the public and the State. These are, therefore, generally speaking, the original source from which Canada has in the past received thousands of her British juvenile immigrants.

The children have been placed in the homes for reasons innumerable, but the following groups are the more salient causes:—

1. Poor and destitute.
2. Orphans.
3. Neglected and unbefriended.
4. Ill-treated.

Besides these there are other institutions for child need in this Motherland which are correlated to those first mentioned in the above category but with these I perhaps was not directly concerned.

Experience in Canada, as elsewhere, has demonstrated that the social position of the child's parents is not necessarily a handicap to the child's future provided he is received in the home at an early age. The children come largely from overcrowded centres of population, London and the surrounding towns supplying the greater proportion of the children in the homes. Amongst the finest and most promising boys and the best material for emigration are London boys. I was informed by one who has made a study of the London boy, that he is bright and alert, learns easily and is amenable to discipline and instruction. He will do splendidly if taken in hand before he knows his London too well.

The trades taught them in the homes are all useful and will come in very handy for the Canadian farmer as a general knowledge of harnessmaking, boot repairing, tailoring and carpentry has, as I know personally, been very helpful to many erstwhile young immigrants, especially those who have gone to Western Canada and taken up homesteads.

In general, the moral and physical training and discipline of these homes tend to mould the children into useful and industrious citizens wherever their future lot may be cast. The work accomplished by both State and privately managed homes and schools in Great Britain is in itself absolutely good, and my estimate of it has been considerably enhanced by the opportunity afforded me of making it the subject of personal study and investigation.

RELIGIOUS PRINCIPLES

The work of the various societies is carried on under well defined religious principles as the outcome of home mission effort. It stands " outside the camps of mere sects and denominations," the only difference being that of Protestant and Roman Catholic. Apart from the latter no " shibboleth of creed " or denomination regards the work as its own. In all the homes and schools, whether under private or state control, religious instruction, I observed, has a foremost place in the training of the children. This undoubtedly will account for the fact that in knowledge of moral teaching these children in Canadian Sunday and day schools so often take first rank, and many of them are afterwards found as public religious teachers throughout the Dominion.

This is well illustrated in the case of J. T., who migrated to Canada at the age of fifteen. His employer, after having the boy in his employ and household for three years, recently stated: " John is a good Christian boy, never has been guilty of a mean act in the three years he has been with us. He is a good worker and takes as much interest in the place as if he owned it. He is now out of control of the home and has hired with me for another year at $28 per month with board and keep." The boy said, " Mr. and Mrs. W. have been a father and mother to me."

MEDICAL EXAMINATION OF CHILD

Before being admitted to a home or school, a child must be examined by a medical officer, both on his admission to the headquarters building and immediately before being placed in the home or school. A certificate showing the child's fitness to be transferred to the home or school must also be furnished.

The health of the children is, of course, pre-eminently the one condition that should be highly regarded as far as emigration is concerned, and it is satisfactory to note that in all institutions in the Old Land, the authorities seem to exercise the deepest concern in this regard.

The general health of the children in these training establishments in the Old Country has proven to be as good or perhaps better than is found amongst the general population of the country. This is due altogether to the environment as well as to the strictness in the discipline and the training of the children in cleanly habits. It is a well known fact that in all homes where youthful persons are early taught to practice these habits they retain them through life, and also, that in the absence of such training they are almost sure to grow up without proper regard to the necessity of personal cleanliness. Therefore these institutions will undoubtedly turn out a large proportion of children possessing stronger sentiment favourable to purer lives. I refer to this particularly because of my observations, during my very long experience in the inspection of children, and investigations bear out the opinion I have formed of the general good health of the bulk of the children in these homes.

THE CHILD IN THE SCHOOL: HIS CARE AND TREATMENT

Elementary education is a most important part of the early training of these children. Each institution has, of course, regular schools presided over

by specially qualified teachers who are engaged because of a distinct interest in the general wellbeing and development of the minds of a class who have not had the advantages of the ordinary child born under more favourable auspices. Under such tutorship it can be well appreciated that taken at an early age, impressions may be made which in development will enable the fittest to recover much lost ground due to lack of care and training previous to admission to the homes, and of these there are naturally great numbers who eventually make extremely rapid progress.

What struck me at the various schools visited was the well cared for and contented appearance of the children as a whole. Special attention was paid to manners, alertness and general appearance of the children found in the homes. I questioned them regarding their home life, and studies in school—in not a few instances was surprised to find the child so well informed about Canada. One lad of eight was asked by me where Canada was and he replied "over the water," and another equally young in reply to my question "farming is the chief occupation of the people there." Many, I learned, had a brother or sister in Canada, whose names were familiar to me, having been under the supervision of my office in previous years.

Amongst the many difficulties which beset the state and private agencies charged with the care, training and settling in employment of the surplus population of boys and girls in Great Britain, there are two which force themselves into prominence, viz. (1) the impossibility of finding room for them in the homes and schools owing to the lack of money to provide sufficient accommodation, and (2) the difficulty of settling these young people in useful and profitable employment. The Ministry of Health, Ministry of Labour and Education authorities, as well as the various philanthropic organizations, have before them the great responsibility of dealing with these young people.

In an interview with Miss Durham, of the Ministry of Labour (Juvenile Employment branch), I learned that nearly half a million boys and girls in the United Kingdom leave school each year—the vast majority being only fourteen years of age—without any definite employment in view.

From careful inquiry I believe that 75 per cent of these boys and girls would be most acceptable migrants for Canada. The Ministry of Labour, in a memorandum advocating emigration to the Dominion at the age of fourteen, states:—

> "Emigration at fourteen offers a far wider field for selection. A greater proportion of the boys endowed with superior physique and intelligence have before sixteen passed into occupations demanding a long training and promising good wages and prospects. These boys will not be easily shaken out of their channel by an offer made five years later of a completely fresh start made elsewhere. Since an offer made at eighteen or nineteen brings a far readier response from those who have not fared very successfully in the labour market, who have had many jobs but stayed long at none. Their ill-luck has left a mark on character and habit. They are not the same fine material as when they left school. The years that pass between fourteen and eighteen are a time when impressions are absorbed with a swiftness and a submission almost incredible. It is during this period that the English boy becomes inevitably an Englishman and no other sort of a man."

The question of the age at which children should be sent to Canada is one that was frequently discussed with the authorities in England and a matter to which I have given very considerable attention. There are openings throughout the Dominion for British children of all ages but of course these openings

are affected by the positions the children are expected to fill on arrival here, viz., helpers from ten to thirteen years of age placed under principle of adoption or boarded out—various ages up to fourteen—workers fourteen to seventeen, and over.

SELECTION OF PROSPECTIVE EMIGRANTS

Each organization lays down certain rules and regulations in respect to children proposed for emigration to Canada. The conditions vary but little, and are in effect as follows:—

(1) The character of every boy or girl must be furnished in writing before its emigration is finally agreed upon and this must cover the various periods during which the child has been under training and observation in the home or school.

Children whose character and behaviour have not been satisfactory or any child who after being placed out at home has not made good, will not be sent to Canada. Those making the selection of children for emigration are fully appreciative of the fact and are willing to accept the responsibility that if any of the children behave badly in the Dominion they must be returned to the Motherland.

(2) A medical certificate, which of course must show the prospective emigrant to be healthy, both of body and mind, is also furnished over the signature of reputable medical practitioner before final arrangements for the child's emigration are carried out.

(3) The most suitable ages to send a child to Canada for service are from five to fourteen years for boys, and from thirteen to sixteen for girls. Children three-and-a-half to ten are emigrated only when foster homes have been previously selected for them in Canada. The emigration of very young children is ideal, both for the children and for Canada, but it is a much more expensive undertaking than that of emigrating those who are over ten and under fourteen years, as the former requires a longer period of after care in Canada.

BOY LABOUR IN GREAT BRITAIN

The following are some of my observations on the subject of the demand for boy labour in England:—

The demand for boy labour in Great Britain is much over-estimated, and thousands who would make good material for emigration are continually out of work.

When boys leave the homes, they join the Army or Navy, or take whatever they can get—the latter occupations as a rule are known as "blind alley jobs," being temporary and leading to no advancement; they come to an abrupt end, as a *cul de sac*. Such occupations include messengers, van, telegraph and page boys. Since the war, young girls have also been employed as telegraph messengers. Thousands of boys from ten to twelve years of age are employed in the capacity of page boys in hotels, restaurants and clubs.

Hundreds of these boys might, with advantage, be secured for Canada, under the auspices of recognized societies, as soon as they leave the school or home, and before drifting into unprofitable or "blind alley" occupation.

Many of the poor law, industrial and voluntary homes, in appearance and furnishings, are more like first-class boys' and girls' boarding schools and institutions. The children looked as if they might have come from the homes of the better or middle working classes.

At the present time, Canada is receiving children through various organizations of the highest repute in England and Scotland, which may be classified as follows:—

Philanthropic Organizations.

Ministry of Health, including 600 Boards of Guardians (and while these have to do with other classes their responsibilities include orphan and neglected children.)

Home Office, Certified Schools.

There are many other sources which as yet have not sent children but are willing to do so under the Overseas Settlement Committee's plan.

It is probable that outside the British Isles people have no conception of the large number of voluntary workers connected with both private and state-owned homes, schools and orphanages, who are giving their services in a private capacity to the community, from a sense of self sacrificing duty to orphan and needy children.

It is absolutely certain that in Canada the conditions in respect to farm labour and household work can be met to a very large extent by the importation of thousands of carefully selected boys and girls, who have been under discipline and training in the various private and state schools in the United Kingdom. The supply of this class of help is ready to hand in larger numbers than was ever known heretofore, for one particular reason, namely, that there has been a very limited migration to Canada of juveniles from the motherland for a number of years, as may be seen from the following statement:—

Total number of children emigrated to Canada during the past twenty-three years or from 1900–1 to 1922–23 (inclusive).....	38,589
Total number of applications received for children from 1900–1 to 1922–23....	451,680
Total number of children emigrated during three years ending March 31 last..	3,821
Total number of applications during same period.....	52,217

DOMINION OF CANADA

ANNUAL REPORT

OF THE

DEPARTMENT OF INDIAN AFFAIRS

FOR THE

YEAR ENDED MARCH 31

1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander-in-Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of Indian Affairs for the fiscal year ended March 31, 1923.

Respectfully submitted

CHARLES STEWART,
Superintendent General of Indian Affairs.

OTTAWA.

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PART I

REPORT

OF THE

DEPUTY SUPERINTENDENT GENERAL OF INDIAN AFFAIRS

FOR THE YEAR ENDED MARCH 31, 1923

REPORT OF THE DEPUTY SUPERINTENDENT GENERAL

OTTAWA, November 1, 1923.

Hon. CHAS. STEWART,
Superintendent General of Indian Affairs,
Ottawa.

SIR,—I have the honour to submit the report of the Department of Indian Affairs for the year ended March 31, 1923.

The year has been one of normal progress, and a perusal of this report in its more detailed features will show that both in production and in wage-earning power the Indians have not fallen below the standard which has been set by previous years. Crop returns in themselves are not always an evidence of progress, as the Indians are subject to the ordinary vicissitudes of agriculturalists, and their crops may be a failure in one district and a success in another, but in the aggregate the crop returns show a considerable increase over last year. It may be confidently stated that there is a measured degree of progress in the farming methods employed, particularly in Ontario and in the prairie provinces where the Indian Commissioner, Mr. W. M. Graham, continues his special supervision of this branch of the work. The Indians as a class are now self-supporting. This Department of necessity occupies the same position with reference to indigent Indians as the municipalities at large to the ordinary destitute among the white population, and our total expenditure for all these purposes is moderate.

There is no outstanding event in the year which deserves to be commented upon, and matters of ordinary interest are dealt with in the following pages.

The Indian returned soldiers, who number more than 3,000, form a new and progressive class on the reserves throughout the country. Their experience has been a broadening one and they are not likely to return to the primitive life of their antecedents. They enjoy the privilege of the Soldier Settlement Act, which is administered for them by the Indian Department under special legislative authority.

The health of the Indians has been normal, and it is noted with satisfaction that they are now more ready to take advantage of modern methods of treatment. This tendency is evidenced by the recent action of the Blackfeet in erecting a hospital on their reserve at their own instance, and with their own financial resources.

EDUCATION

It has been found necessary for the future welfare of the Indians to further expand the educational work of the department. Several new schools are under construction, and better accommodation and facilities are being provided at existing institutions.

The policy to-day is to care for all capital expense at Indian residential schools, whenever funds can be found for the purpose. This releases the finances of the missionary societies and orders, that are active in Indian education, for better instruction, food and clothing. More centralized control and better supervision, on the part of the churches, also has resulted in more efficient administration of the individual residential schools. It should be added that depart-

mental inspection of the academic and vocational work has never been as thorough as at the present time.

Larger appropriations have enabled the department to make a definite effort to provide more attractive instruction in the classrooms of the day schools. Salary schedules have been raised and the services of better qualified teachers are being secured. Further, an academic inspection has been arranged for the schools in all provinces except Yukon. Arrangements have also been made with several of the Provincial Departments of Education to have teachers of Indian schools attend, and participate in, local teachers' institutes, conventions and demonstrations. Throughout the Dominion the provincial courses of study for public and separate schools are being used in the Indian school classrooms. In line with this effort to make the instruction more attractive, more classroom and recreational equipment is being supplied.

Attention should be drawn to the fact that continuation and high school work has been conducted in several of our day and residental schools during the past few years. In the case of several of the residental schools that are situated close to municipal high schools and collegiates, the more advanced pupils in residence are benfiting by secondary training, in competition with white children.

It should be stated that the attendance of Indian children at all classes of schools is steadily increasing, and if Parliament continues to make appropriations that will permit of the departments's programme, this generation of Indian children will receive a general training which will make their wardship in the future more nominal than heretofore.

Seventy-two residential and 255 day schools were in operation during the year—a total of 327 Indian schools. In addition, the department assisted in the maintenance of 13 combined white and Indian schools. In the tabular statement in Part 2 of this report will be found a list of the schools, showing the reserve, agency and province, and indicating the enrolment in each case.

Compared with the previous year, there is an increase of one residential school and five day schools. The department has assumed the responsibility for the St. Paul's Hostel, at Dawson, Yukon, and has opened several new day schools. Certain day schools on reserves have been closed, because of no progress, and the Indian children recruited for residential schools.

The total enrolment for the year was 13,723 pupils—an increase over the preceding year of 702. Nearly one-half of this increase is accounted for by larger enrolment at residential schools, the pupilage of which has had to be increased. The average daily attendance was 9,106—an increase of 442 over the preceding year. A study of the grades of the pupils shows that 1,529 are in Standard 5, or higher—an increase in advanced pupils over the preceding year of 141. The percentage of attendance has increased slightly, from 66·46 to 66·58, showing that with increased enrolment there develops an interest on the part of parents and guardians.

Several of the churches are actively engaged in the management of Indian day and residential schools, as follows:—

Roman Catholic—40 residential and 82 day schools;
Church of England—20 residential and 76 day schools;
Methodist—5 residential and 39 day schools;
Presbyterian—7 residential and 5 day schools;
Salvation Army—one day school.

In addition to those mentioned in the tabular statements, there are some 130 Indian students enrolled in high schools, colleges and universities in Canada. In the case of most of these, the department assists with a grant from parlia-

mentary appropriation. In this connection $10,327.56 was expended during the past year. The policy is to make grants to the most promising graduates of Indian residential and day schools. If church and department representatives consider a graduate worthy, the department provides a grant, when the bona fide intention of the pupil is evident and provided proper supervision can be secured for the period of advanced study. These tuition grants are continued only when satisfactory reports are received. The practice of assisting ex-pupils of residential schools to start farming and housekeeping has been continued: grants for stock, implements, building and household equipment have been made to some promising graduates.

The expenditure for Indian Education from parliamentary appropriation for the fiscal year ended March 31, 1923, amounted to $1,437,642.03, as follows:—

STATEMENT OF EXPENDITURE FOR THE YEAR 1922-23

Agency	Day Schools	Boarding Schools	Industrial Schools	Ex-pupils	Salaries and travel	Tuition	Freight, Express, etc.	Miscellaneous	Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario	29,989 53	113,603 27	118,371 37	.....	695 74	3,686 89	97 21	6,459 92	272,903 93
Quebec	30,596 62	.....	.....	.....	.....	2,083 24	219 87	5,335 11	38,234 84
Nova Scotia	6,609 78	.....	.....	.....	.....	3,227 30	.....	1,097 47	10,934 55
New Brunswick	7,346 14	.....	.....	.....	853 64	498 34	55 07	2,990 40	11,743 59
Prince Edward Island	894 82	.....	.....	.....	.....	.....	.....	20 38	915 20
Manitoba	28,069 04	149,799 09	38,532 76	549 97	.....	381 34	2,117 72	8,311 80	227,761 72
Saskatchewan	23,050 31	157,652 08	44,172 44	680 38	784 95	150 00	860 90	3,813 98	231,165 04
Alberta	4,979 19	192,121 84	29,044 60	34 75	.....	176 25	945 79	3,246 34	230,548 76
British Columbia	48,166 88	93,753 52	201,483 64	448 26	4,017 55	124 20	1,007 61	5,790 10	354,791 76
North West Territories	958 05	35,079 27	.....	.....	.....	.....	272 68	81 20	36,391 20
Yukon	2,404 70	19,606 83	.....	.....	.....	.....	86 25	153 66	22,251 44
	183,065 06	761,615 90	431,604 31	1,713 36	6,351 88	10,327 56	5,663 10	37,300 36	1,437,642 03

In addition to the above the various bands of Indians whose funds are sufficient to meet the outlay, contributed the sum of $50,346.26 towards the payment of teachers' salaries, general expenses and the maintenance of school buildings on their reserves. For the fiscal year ended March 31, 1923, the amounts so contributed have been as follows:—

Acct. No.	Band	Interest	Capital
		$ cts.	$ cts.
1	Batchewana Band	1,555 63	
2	Chippewas of Beausoleil	942 35	
3	" Nawash	3,428 91	
4	" Rama	1,409 21	
5	" Sarnia	879 27	
6	" Saugeen	2,535 77	
7	" Snake Island	311 42	
8	" Thames	660 00	
9	" Walpole Is	546 31	
12	Garden River Band	1,679 06	
13	Henvey Inlet Band	240 00	
14	Nipissing Band	789 74	
15	Manitoulin Island, unceded	1,920 02	5,050 00
17	Mississaguas of Alnwick	1,226 33	
18	" Credit	920 77	
19	" Red Lake	300 00	
20	" Mud Lake	320 80	
22	Mohawks of Bay of Quinte	2,079 43	
23	Moravians of Thames	823 36	
30	Parry Island Band	476 49	
32	Serpent River Band	675 00	
33	Six Nations of Grand River	13,040 01	
34	Shawanaga Band	1,003 05	
50	River Desert Band	541 10	
79	Chippewas Kettle & Stony Point	863 34	
82	Whitefish Lake Band	1,063 55	
182	Dokis Band	323 75	
246	Sheguiandah Band	765 09	
247	Sheshegwaning Band	1,043 83	
248	South Bay Band	1,172 23	
249	Sucker Creek Band	729 33	
251	West Bay Band	1,031 11	
		45,296 26	5,050 00

The interest contributions were for current expenses, salaries of teachers and minor repairs. The expenditure from capital was for the erection of a combined day school and teacher's residence.

BUILDINGS

The buildings erected for the year ending March 31, 1923, were as follows:—

New barns were erected for the Alberni Indian Boarding School, Gordon's and St. Mary's Indian Boarding School at Mission, B.C.

New day schools were erected at Buzwah, Manitoulin Island; Katzie Indian Reserve, near Port Hammond, B.C., and the Western and Central Day Schools on the Tyendinaga Indian Reserve, Ont.

New Farm Instructors' residences were built at Crooked Lake Agency; Paul's and Samson's Indian Reserves. A new office building was also provided for the Crooked Lakes Agency, Sask.

Forty-five houses and barns were built for the Indians on Blackfoot Indian Reserve, Alta.

Alterations and additions were carried out to the Mohawk Institute at Brantford, Ont. Alterations and additions were also made to the agency residence at Hazelton, B.C.

A small cold storage plant was built for the Cowesses Indian Boarding School, Sask.

In addition to the above mentioned work, many minor repairs and additions were carried out at some of the boarding, industrial and day schools.

BRIDGES, DRAINAGE, IRRIGATION SYSTEMS, ROADS AND WHARVES

Works of the following character have been carried out on the several Indian reserves during the current year.

BRIDGES

Bridges have been constructed or repaired on the following reserves: Walpole Island, Ont.; Six Nations, Ont.; Caradoc, Ont.; Gore Bay, Ont.; Moravian, Ont.; St. Regis, Que.; New Credit, Ont.; Thunderchild, Sask.; Tsawoat, East Saanich, B.C.; and Waywayseecappo, Man.

DRAINAGE SYSTEMS

Drainage systems have been constructed on the following reserves: Seshart Reserve No. 1, B.C.; Shegwandah, Ont.; St. Regis, Que.; Abenakis, Que.; and Cape Croker, Ont.

DYKING

Dyking work is in course of progress along the St. Mary's river, on the Kootenay Indian Reserve, B.C., to protect portion of the reserve and the highway located thereon.

IRRIGATION SYSTEMS

Irrigation systems have been completed or are gradually being installed on the farming lands of the following reserves: Kamloops, B.C.; North Thompson, B.C.

Maintenance work has been performed on irrigation systems at Neskainlith, B.C.; Sahaltkum, B.C.; Kootenay, B.C.; Columbia Lake, B.C.; and Lytton, B.C.

ROAD WORK

Repairs, improvements of roads, and maintenance of main highways, have been carried out on the following reserves: Walpole Island, Ont.; Sarnia, Ont.; Moravian, Ont.; Rama, Ont.; Shegwandah, Ont.; New Credit, Ont.; Alnwick, Ont.; Tyendinaga, Ont.; Fort William, Ont.; Cape Croker, Ont.; Songhees, B.C.; Maniwaki, Que.; Paul Reserve, Alberta; Restigouche, Que.; North Temiscaming, Que.; Beconcour, Que.; and Milbrook, N.S.

SEWAGE DISPOSAL SYSTEMS

A modern sewage disposal system has been installed at the Qu'Appelle Boarding School, Sask.

WHARVES

Repairs and improvements have been performed on wharves on the Cape Croker Indian Reserve, Ont.

WATER WORK SYSTEMS

Waterwork systems for domestic purposes and fire protection have been installed on the Sliammon Indian Reserve, B.C., and Cape Mudge Indian Reserve, B.C.

SURVEYS

The following is a statement of the principal surveys performed in connection with the work of the Surveys Branch during the fiscal year which ended March 31, 1923.

New Brunswick.—A survey was made of church property in the Tobique Indian Reserve No. 20.

Quebec.—The boundaries of several lots in the Caughnawaga Indian Reserve were defined.

Ontario.—A survey was made of Lot 5, Eagle's Nest Tract, Brantford. An inspection survey was made of several parcels of land in the Fort William Indian Reserve No. 52.

Manitoba.—A retracement was made of a number of the river lots in the Peguis Indian Reserve No. 1-B.

Saskatchewan.—A portion of the White Bear Indian Reserve No. 70 leased to the town of Carlyle was surveyed and a traverse made of White Bear lake. A portion of the north boundary of this reserve was reopened.

The Duck Lake battlefield in the Beardy and Okemassis Indian Reserve was surveyed and posted.

Alberta.—A reserve was selected and surveyed for the Janvier Band in Tp. 80, R. 5, W. 4 M.

A subdivision survey was made of a portion of Tp. 22, R. 24, W. 4 M., in the Blackfoot Indian Reserve No. 146.

British Columbia.—A small portion of the Halalt Indian Reserve No. 2 was surrendered and surveyed.

LANDS AND TIMBER

LANDS

Sales of surrendered, surveyed lands are shown in the tabular statement appearing in Part II of this report. During the past year 6,898·38 acres were sold realizing $64,955.30. The number of land patents issued during the year ending March 31 last was 212, and returns of Crown grants to the number of 36 were prepared and forwarded to the registrars of the counties and districts in which the lands patented were situate, and four returns were made to the Provincial Secretary of Ontario covering lands patented within that province.

LOCATION TICKETS

Location tickets granting title under the provisions of the Indian Act, to individual owners, for lands on the reserves, were issued during the past year to the number of 131, and on March 31 last there were current 2,316 location tickets.

LEASES

Under the provisions of section 11 of the regulations for the disposal of Indian lands, leases were issued to white men at the request of the Indian locatees to the number of 83, and on March 31 last there were 1,299 leases current.

ENFRANCHISEMENT

Under the provisions of section 122A of the Indian Act there have been enfranchised during the past fiscal year 60 Indians, heads of families, comprising a total number of men, women and children of 160. The total number of Indians enfranchised to March 31, 1923, under this section is 1,035.

TIMBER

Lumbering operations on Indian reserves in the Dominion show a greater advance during the license year 1922-23 than in the previous year, this being largely due to greater activity in the lumbering business generally, throughout the country. Conditions in the province of British Columbia, particularly, were such as to warrant the sale being made of the timber on several reserves in that province which the Indians had previously released but which had not been offered for sale on account of the small demand.

The quantity and kinds of timber cut on Indian reserves during the year are as follows:—

Fir (Douglas)	16,801,683	f.b.m.
Pine (yellow)	509,988	"
Pine (white)	2,358,199	"
Pine (red or Norway)	357,392	"
Pine (jack or banksian)	1,214,585	"
Spruce (various species)	15,453,318	"
Hemlock (western)	2,643,028	"
Hemlock (eastern)	1,063,083	"
Cedar (white and red)	8,349,912	"
Tamarac	221,891	"
Fir (balsam)	148,291	"
Maple	460,722	"
Beech	41,957	"
Ash	139,040	"
Elm	204,909	"
Birch	945,485	"
Oak	25,291	"
Basswood	386,620	"
Poplar	345,748	"
Cottonwood	397,097	"
Cordwood	5,001	cords
Pulpwood	5,147	"
Shingle bolts (cedar)	1,791	"
Boom timber	63,197	cu. ft.
Ties (various)	47,780	No.
Posts	9,591	"
Poles	5,983	"

The total quantity of timber cut for sale, in terms of board measure feet, was approximately 78,000,000 and in addition to this quantity, the Indians cut for their own use approximately 7,000,000 f.b.m. of timber for building and fencing purposes and 20,000 cords of wood for fuel besides an un-reported quantity of material for the native manufacture of snow-shoes, axe handles, baskets, etc.

No sales of standing timber were made during the year on reserves in Eastern Canada but several sales were completed in the province of British Columbia, on a royalty basis with deposit, in conformity with the regulations. These were as follows:—

Katzie No. 4	Deposit	$ 500 00
Tobacco Plains	"	1,700 00
Langley No. 4	"	363 75
Siakine No. 4	"	683 55

Cash receipts during the year were:—

Bonuses and deposits	$72,350 00
Timber dues (license)	82,102 91
" " (permit)	18,847 29
Ground rents and fees	2,474 35
Trespass dues	1,740 04
Interest charges	1,071 07
Total	$178,585 66

There were forty timber licenses current on April 30, 1923, being five less than the previous year, two new licenses having been issued and seven old licenses having been cancelled or relinquished.

Estimates of timber and reports on land of five reserves were compiled in the course of the usual administrative work and this data has been added to the record of the natural resources of the Indians which is being prepared.

Forest patrol was carried out by Indian rangers on reserves where the fire risk necessitated such patrol, the amount expended in this service during the 1922 ranging season being $6,876.67 whilst a further sum of $1,265 was expended for brush disposal and the elimination of fire hazards. Fire notices in the English and French languages and five Indian dialects were circulated in unorganized districts and closer co-operation was arranged with the forest organizations of the provinces of British Columbia and Quebec with respect to the issue of brush burning permits. The Indians were also encouraged to make a proper utilization of fire-killed, dead and diseased timber and urged to make their logging operations the initial step toward preparing their lands for cultivation.

Representations were made to the Governor General in Council to rescind the Timber Regulations established in the year 1888 and replace them with new regulations more suitable to present day conditions, such new regulations being approved by Council on May 1, 1923.

SUMMARY OF INDIAN AFFAIRS IN THE VARIOUS PROVINCES BASED ON THE REPORT OF THE DEPARTMENT'S AGENTS AND THE INSPECTORS FOR THE FISCAL YEAR ENDED MARCH 31, 1923.

The local administration of the Indian lands, on the reserves scattered throughout the Dominion, is conducted through the department's agencies, of which there are in all 114. The number of bands included in the agency varies from one to more than thirty. The staff of an agency usually includes various officers in addition to the agent, such as the medical officer, clerk, farm instructor, field matron, constable, stockman, etc., according to the special requirements of the agency in question. At many of the smaller agencies in the older provinces, where the Indians are more advanced, the work is comparatively light, requiring only the services of an agent. The work of the agencies is supervised by the department's inspectors, each inspector having charge of a certain number of agencies.

ONTARIO

Agencies.—The following agencies are included in the province of Ontario: Alnwick, Bay of Quinte, Cape Croker, Chapleau, Chippewas, Munsees, and Oneidas of the Thames, Christian Island, Fort Frances, Georgian and Snake Islands, Golden Lake, Gore Bay, Kenora, Lake Superior (Eastern and Western Divisions), Manitowaning, Missassaguas of the Credit, Moravians of the Thames, Parry Sound, Rama, Rice and Mud Lakes, Sarnia, Saugeen, Scugog, Six Nations, Sturgeon Falls, Thessalon, and Walpole Island.

Tribal Origin.—The great majority of the Indians of Ontario are Ojibwas, and are of Algonkin stock. The Oneidas of the Thames, the Mohawks of the Bay of Quinte, the Mohawks of the Parry Sound district, and the Six Nations of Brantford are of Iroquoian stock. There is a band of Pottawattamies at Walpole island, and Delawares at the Caradoc agency; these are of Algonkin stock.

Occupations.—The Indians in the western and central parts of Ontario engage largely in farming. The reserves, generally, are well suited to this purpose and the activity of the department's field agents has resulted in a

steady improvement both in the methods of operation and the results achieved. The success achieved by the returned soldiers of this province has been especially creditable and are rapidly developing prosperous communities.

During the summer months Indians find a profitable source of income as guides and canoe-men. Many are employed at various industries and trades while railway and navigation companies employ a large number. As a rule they are excellent bushmen and many find employment in the various lumber camps. There is still an excellent market for snowshoes, canoes and moccasins and these are usually manufactured by the other members of the community.

The women also have many sources of income; some are employed as domestics; others support themselves by making baskets and fancy work. In certain districts berry-picking is an important item and furnishes considerable income.

Health.—The health of the Indians of Ontario has been good during the past year. While tuberculosis is still their worst enemy the efforts of the department for the past decade have borne fruit and this disease is noticeably less than in previous years.

Dwellings.—A great majority of the Ontario Indians have comfortable farmhouses which compare very favourably with those of their white neighbours. Many own houses of brick and stone, but in the outlying and more remote districts the old log houses are in the majority. In the more settled districts the Indians have followed the examples of the whites and both houses and farm buildings are comfortable and of excellent construction.

New Ontario.—In the remote parts of Ontario hunting and fishing are still the chief sources of livelihood. While fur has been very scarce the price has been correspondingly high. Fishing, however, has not been as successful this year owing to the scarcity of the market and the low prices. Acting as guides and canoe-men during the summer months adds considerably to their income. While agriculture is not carried on to any extent most of the bands grow considerable crops of potatoes and vegetables. They are, of necessity, more or less nomadic and consequently live in tents most of the year. This condition will greatly change as civilization progresses.

The health has been generally good, although somewhat subject to tuberculosis.

QUEBEC

Agencies.—The following agencies are included in the province of Quebec: Becancour, Bersimis, Caughnawaga, Lake St. John, Lorette, Maria, Mingan, Oka, River Desert, Restigouche, Seven Islands, St. Regis, Timiskaming and Viger.

Tribal Origin.—The principal tribes found in Quebec are: Iroquois at Caughnawaga, lake of Two Mountains, and St. Regis; the Hurons of Lorette are also of Iroquoian stock; the Montagnais, who are also of Algonkin stock, at Bersimis, Mingan, lake St. John, Seven Islands; the Abenakis, also of Algonkin stock, at Becancour and St. Francis; the Micmacs, also of Algonkin stock, at Maria and Restigouche; and the Malecites, also of Algonkin stock, at Viger.

In the agricultural districts of the province the Indians are developing a keener interest in farming operations and are making a decided success. In the Gaspé peninsula the Indians find employment in the lumber camps and mills, but on the north shore of the gulf fishing, hunting and trapping are still the principal sources of income. In the northern part of the province lumbering is the chief pursuit. One of the principal industries of the Indians of Quebec is making baskets, and many of the Indians spend the summer months at the

resorts in order to dispose of the baskets, lacrosse sticks, racquets, moccasins, etc., to the tourists. Some of them, particularly in the Saguenay districts, act as guides and canoe-men.

Health.—On the whole, the health of the Indians of Quebec has been good during the past year.

Dwellings.—In the older settled districts of the province the Indians own many excellent stone and brick houses. Generally speaking, the buildings are almost all of good construction, comfortable and sanitary. In the more remote districts, where hunting and trapping are still the principal occupations, the Indians necessarily live in tents during the greater part of the year.

The North Shore.—Along the north shore of the gulf of St. Lawrence, the Indians have been taking a marked interest in the fishing industry. At Mingan, Natashkwan, Romaine, St. Augustine, and Moisie, the fishing is under departmental supervision. Salmon and cod are the principal marketable fish and are a source of considerable income to the Indians. The land is not suitable for extensive cultivation but many of the Indians have very creditable gardens.

NEW BRUNSWICK

Agencies.—There are three agencies in the province of New Brunswick, the Northeastern located at Buctouche, the Northern located at Perth, and the Southwestern located at Fredericton.

Tribal Origin.—The majority of the Indians of New Brunswick belong to the Micmac race, which is of Algonkin stock. In addition to these there are some bands of Malecites, also of Algonkin stock.

Occupations.—In the Northeast division the Indians are mostly engaged in fishing, hunting and trapping. Some farming is carried on, and the Indians have rather tended to increase their interest in this regard.

The lumbering industry employs quite a large number and the Indians all through the eastern provinces have become very proficient in the lumber camps, on the river drives and in the mills. In the Northern division there is less farming carried on, and the Indians during the summer months find employment generally as day labourers. In the Southern division they support themselves chiefly by the manufacture and sale of Indian wares.

NOVA SCOTIA

Agencies.—There are nineteen Indian agencies in the province of Nova Scotia, namely: Yarmouth, Digby, Shelburn, Queens, Lunenburg, Annapolis, Kings, Windsor, Shubenacadie, Halifax, Cumberland, Colchester, Pictou, Antigonish-Guysboro, Richmond, Inverness, Victoria, Sydney, and Eskasoni.

Tribal Origin.—The Indians of Nova Scotia are of Algonkin stock, and bear the distinctive name of Micmac.

Occupations.—They follow various occupations, but, as a rule, do not confine themselves to any particular one. Many of them cultivate the land with indifferent success, but as there are exceptions in almost every case, so it is with our Indians; a few of them are succeeding very well as farmers. The majority of those living near industrial centres usually work as day labourers. Hunting, trapping, and acting as guides for sportsmen are favourite occupations, more especially with Indians of middle age. Basket-making, and the manufacture of fancy moccasins, etc., are confined mostly to women. A profitable employment among Indians in a few sections of Nova Scotia is the manufacture of hockey sticks, and they appear to be experts at the business.

Health and Sanitation.—The general health of Indians in this province during the past year was normal. No disease of an epidemic character appeared among them. They suffer most from tuberculosis, which, however, seems to be less in evidence than formerly. Sanitary regulations are very well observed by most of them, and they begin to realize fully the importance of cleanliness and pure air as preservers and promoters of good health.

Buildings.—With very few exceptions, Indians in Nova Scotia occupy houses of frame construction, well finished on the outside, but unfinished inside. Every settlement, however, has a few comfortable dwellings well finished throughout. Other buildings owned by Indians—barns and storehouses—are mostly of frame construction also.

PRINCE EDWARD ISLAND

Agency.—One agency is sufficient for the purposes of the department in this province, as the total Indian population is only 292.

Tribal Origin.—The Indians of this province all belong to the Micmac tribe, which is of Algonkin stock.

Occupations.—But few of the Indians of Prince Edward Island are farmers. The principal industries are basket-making and fishing. The oyster fisheries, which had been a complete failure for some years, is again profitable and has added somewhat to the income of the Indians.

MANITOBA

Agencies.—The following agencies are included in the province of Manitoba; Fisher River, Clandeboye, Norway House, Griswold, Portage la Prairie and Manitowapah, Pas and Birtle.

Tribal Origin.—The majority of the Indians of Manitoba belong to the Ojibbeway race, which is of Algonkin stock. Bands of Swampy Crees are found at the Norway House and Fisher River agencies and in the York Factory district; these are also of Algonkin stock. The Indians located at the Griswold agency are Sioux; there are also Sioux at the Birtle and Portage la Prairie agencies. There is a band of Chipewayans at Fort Churchill; this tribe is of Athapascan stock.

The reserves in Manitoba suitable for extensive agriculture are mainly within the Birtle, Griswold, and Portage la Prairie agencies. On some reserves during the last two years the crops have not been up to the standard and the Indians have somewhat lost heart in their farming operations, but generally speaking progress has been satisfactory.

In the northern agencies the occupations are mostly hunting and trapping, but fishing has been becoming a more and more important factor during the past four or five years, and considerable income has been derived therefrom. While fur has been scarce the price has been high and the market for fish has increased. All of the northern Indians are expert guides and canoe-men, and many find employment in this way or with the transport or fur companies.

In the southern and more settled districts many of the younger people seek employment as day labourers, and owing to the high wages have been fairly prosperous. The Indian women make needle work, baskets, etc., for which there is a ready market.

Health.—The health of the Indians throughout the province has been good, in fact the steady improvement has been very noticeable. More sanitary methods of living and more comfortable houses and more steady incomes have

tended not a little towards this improvement. The houses are more comfortable and of better construction; as a rule they are well furnished and the Indians are living in more and more comfort. While in the north the nomadic life of the Indians does not permit of other than the old fashioned log house, still even these are being greatly improved and in some cases are being replaced by suitable frame dwellings.

SASKATCHEWAN

Agencies.—The following agencies are included in the province of Saskatchewan: Assiniboine, Battleford, Carlton, Crooked Lake, Duck Lake, Moose Mountain, Onion Lake, Pelly, Qu'Appelle, and Touchwood Hills.

Tribal Origin.—The most numerous tribes among the Saskatchewan Indians are the Ojibewas, Swampy Crees and Plain Crees, which all belong to the great Algonkin stock. In addition to these, Sioux Indians are found at the Assiniboine, Moose Mountain, Qu'Appelle and Carlton agencies, and on the Moose Woods reserve. In the Onion Lake agency there is a band of Chipewyans, who are of Athapascan stock. There are also a few Chipewyan Indians in the Isle à la Crosse district.

The principal occupation of the Indians of Saskatchewan is mixed farming and stock-raising. The close supervision which the department has had over these Indians has tended to greatly improve their method of farming and consequently their crops and income derived from them have greatly increased. Most of the Indians are well provided with good quality of machinery. As a rule they have good stock and suitable houses. In the outlying districts, however, hunting and trapping are still the main sources of income and will so remain until civilization encroaches upon the hunting grounds.

Health.—The health of the Indians of Saskatchewan has on the whole been good and shows some improvement over previous years. The department has instituted a staff of nurses, with headquarters at Regina, which will be available for duty at any reserve when called upon. It is hoped that by constant supervision and instruction that the health of the Indians will continue to show even greater improvement than in the past.

Dwellings.—The dwellings of the Indians on the reserves where farming is carried on are now mostly of frame construction. The outbuildings, however, are generally of logs, but even there there has been some improvement.

ALBERTA

Agencies.—The following agencies are included in the province of Alberta: Blackfoot, Blood, Edmonton, Hobbema, Peigan, Saddle Lake, Sarcee, Stony and Lesser Slave Lake.

Tribal Origin.—The Alberta Indians are of Algonkin stock, with the exception of the Sarcees near Calgary and the Beavers and Slaves in the Lesser Slave Lake agency, who are Athaspascan, and the Paul's band in the Edmonton agency, who are Iroquoian, and the Stonies, who are of Siouan stock. The Algonkin Indians of Alberta are subdivided into Blackfoot nation, comprising the Indians of the Blackfoot, Blood and Peigan agencies, Plain Crees found in the Lesser Slave Lake, Saddle Lake, and Hobbema agencies, and a band of Ojibewas at Moberly Lake, in the Lesser Slave Lake agency.

The principal occupations of the Indians of Alberta are farming and stock-raising. Almost all the reserves in the settled districts of the province have large herds of horses and cattle.

In the northern parts of the province hunting and trapping are still almost the sole sources of income; there is practically no farming carried on and the

construction of steamers on the Peace and Athabasca rivers, and of the railways to Peace River Crossing and Fort McMurray, have greatly lessened the wages of the Indians with the trading companies and transports. However, the price of fur has been even higher than in past years.

Buildings.—In the southern part of the province the dwellings and farm buildings are of excellent construction and quality. Almost all the reserves where extensive farming is carried on boast of up-to-date modern dwellings, comfortable and well constructed. In the north the nomadic mode of the habits forces them to live under canvas or in tepees during the greater part of the year.

BRITISH COLUMBIA

Agencies.—The following agencies are included in the province of British Columbia: Babine and Upper Skeena, Bella Coola, Cowichan, Kamloops, Kootenay, Kwawkewlth, Lytton, New Westminster, Okanagan, Queen Charlotte, Stikine, Stuart Lake, Vancouver, West Coast, Williams Lake and Skeena River.

Tribal Origin.—The Indians of the Bella Coola, Cowichan, Kamloops, Lytton, New Westminster, Vancouver, and Okanagan agencies belong to the Salish tribe. The Kootenay tribe is located in the agency of the same name. The Kwakiutl-Nootka tribe is located at the Kwawkewlth and West coast agencies: the Haidas, in the Queen Charlotte islands; the Tlingits, in the Stikine; and the Tsimshians, in the Skeena River agency. The Indians of the Babine, Stuart Lake and Williams Lake agencies belong to the Athapascan race.

In addition to these there are about 3,000 nomadic Indians in the province who cannot be correctly classified according to linguistic stock or tribal origin.

Occupations.—The occupations of the Indians of British Columbia vary with their habitat. The Indians situated along the coast earn their livelihood principally by fishing. In many instances they own their own motor-launches, nets and gear, while others are supplied by the various canneries. Many of the women are also employed in the canneries or in the hop fields, and make a very steady income.

The Indians of the Queen Charlotte islands own and operate their own small plant for rendering the oolachan or candle fish. In the inland parts of the province some farming operations are carried on and particularly in the irrigated districts grain, fruits of all kinds, and vegetables have been raised with success.

These Indians have been making marked progress in this regard and are now well equipped with modern machinery.

The Kootenay, Kamloops, Okanagan and New Westminster Indians own large herds of horses and cattle. While the Indians in the northern and remote parts of the province still depend upon hunting and trapping for their livelihood, the agents report a marked improvement in their manner of living.

Dwellings.—Except for the more remote districts the Indians have built comfortable and modern dwellings and outbuildings. Their progress in this respect has been perhaps more rapid than any other Indians of the Dominion.

NORTHWEST TERRITORIES

Agencies.—The department has now three agencies in the Northwest Territories, namely Fort Simpson, Fort Smith, and Fort Resolution, the last mentioned having been established during the present year owing to the increased requirements of administration.

Tribal Origin.—The principal tribes found in the Far North are the Slaves, Hares, Loucheux, Secanies, Dogribs, Yellow-knives, Chipewyans and Caribou

Eaters. All these tribes are of Athapascan stock. There are a few Crees in the neighborhood of Chipewyan. These are of Algonkin stock. The most northerly tribes are the Takudah, who extend to the Mackenzie Delta, and the Copper Mines, who are located along the Coppermine river. The territory occupied by these two last-mentioned tribes is contiguous to that inhabited by the Eskimos.

These Indians depend entirely upon hunting and trapping for a livelihood. The department last year has made a treaty with the Indians along the Mackenzie river thus bringing under the supervision of the Dominion Government practically the only Indians in Canada with whom treaty had not been made.

Occupations.—A few have been induced to raise small plots of potatoes. They own no horses or cattle, transportation being almost entirely by canoe along the great waterways, or by dogs in winter. They catch and preserve large quantities of whitefish for their own use and for consumption by their dog-trains in winter.

Health.—Tuberculosis and scrofula are the diseases most prevalent among the Indians of the north. As they are forced to move from place to place their methods of living are primitive and the lack of vegetables is a source of menace to their health; however, conditions are greatly improving.

YUKON

Tribal Origin.—The Forty Mile, Blackstone, and Moosehide bands belong to the Takudah tribe. There is a band of Slavies at Lancing Creek who migrated from Fort Good Hope, on the Mackenzie river; another band of Slavies, called Nahanies, is located at the headwaters of the Pelly river. All these Indians are of Athapascan stock. At Mayo, Selkirk, Little Salmon and Carmacks there are bands belonging to the tribe known as Stick Indians. Bands belonging to the Tlinjit tribe are found at Whitehorse, Teslin Lake, Champagne Landing, and Carcross.

Occupations.—Hunting, trapping and fishing are the chief occupations of the Yukon Indians, and they have been fairly successful during the past year. The women also derive some revenue from the sale of moccasins and curios of various kinds, while the men are expert at making toboggans and snowshoes. Practically no farming is carried on owing to climatic conditions, but some of the Indians cultivate patches of potatoes and other vegetables.

Health.—The general health of the Indians has been good. No epidemics have been reported and although improvement in sanitary conditions is necessarily slow owing to the remoteness of the district, some improvement has been noticed.

FINANCIAL

At the close of the twelve months ended March 31, 1923, capital of the Indian Trust Fund, which at the end of the preceding year amounted to $11.402,577.43, had increased to $11,516,212.72.

The amounts expended from the Consolidated Revenue Fund were as follows: Voted by Parliament for the purposes of the department, $3,007,-897.80, and annuities by statute, $222,848.

On March 31 last, the balance to the credit of the Indian Savings Account for the funding of the annuities and earning of pupils at industrial schools was $133,324.87. Deposits and interest during the twelve months aggregated $40,-603.05, and withdrawals $35,107.84.

GENERAL

The Indian population is fairly stable at about one hundred thousand, although census statistics over a long period show a slight increase from year to year, dispelling the popular misconception that the race is dying out.

In part II, which follows herewith will be found statistics with regard to Census; Grain, Vegetable and Root Production; Land, Private and Public Buildings and Property; Live Stock and Poultry, General Effects; Value of Real and Personal Property and Progress during year; Sources and Value of Income; Schools; Indian Land; Civil Government; Appropriation Accounts, and Indian Trust Fund.

I have the honour to be, sir,
Your obedient servant,

DUNCAN C. SCOTT,
Deputy Superintendent General of Indian Affairs.

PART II

TABULAR STATEMENTS

TABLE No. 1.—RECAPITULATION:—CENSUS OF INDIANS AND ESKIMOS.

Arranged under Departmental Inspectorates and Districts.

Inspectorates and Districts.	Religion.								Under 6 years.		From 6 to 15 inclusive.		From 16 to 20 inclusive.		From 21 to 65 inclusive.		From 65 upwards.		Change in population.		Cause of increase.		Cause of decrease.	
	Number in Band.	Anglican.	Baptist.	Methodist.	Presbyterian.	Roman Catholic.	Other Christian Beliefs.	Aboriginal Beliefs.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Increase.	Decrease.	Births.	Migration.	Deaths.	Migration.
Alberta	5,598	809	.....	1,548	.....	2,203	.....	1,038	562	593	581	532	303	301	1,282	1,260	62	122	90	23	216	38	167	20
British Columbia	24,744	4,492	.....	3,075	585	12,389	369	1,334	1,949	1,900	2,099	2,075	1,302	1,304	5,297	5,190	521	557	303	301	603	136	643	103
Manitoba	14,827	4,919	110	3,128	603	2,408	423	2,831	1,336	1,397	1,580	1,424	1,011	958	2,749	3,090	384	493	205	162	534	301	455	337
New Brunswick	1,846	.....	.....	.....	.....	1,846	.....	.....	145	147	161	156	70	57	327	306	51	35	35	63	67	37	70	62
Nova Scotia	2,031	14	10	.....	.....	2,006	1	.....	178	217	200	187	134	433	399	79	79	70	19	107	46	22	65	91
Ontario	20,969	5,597	1,177	4,543	12	6,321	519	1,225	1,523	1,552	1,849	1,806	1,395	1,283	4,506	4,612	422	446	225	152	450	296	456	217
Prince Edward Island	292	.....	.....	.....	.....	292	.....	.....	20	30	33	28	19	17	65	58	14	8	.....	10	.....	.....	.....	10
Quebec	13,366	119	.....	452	6	8,655	20	.....	974	1,021	894	910	576	542	1,934	1,930	247	224	88	70	230	112	200	124
Saskatchewan	7,764	1,885	.....	74	949	3,008	94	1,630	833	802	799	746	348	368	1,553	1,659	220	312	214	66	350	182	282	102
Isle a la Crosse District	1,999	688	.....	.....	.....	1,311	.....	.....	207	226	222	234	89	93	395	484	15	34	35	6	74	70	46	69
Treaty No. 8 Inspectorate	4,821	438	.....	.....	.....	1,654	.....	356	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	206	88	164	282	130	198
Treaty No. 9 Inspectorate	2,634	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	74	.....	119	95	63	77
Northwest Territories	3,579	307	.....	.....	.....	1,793	.....	.....	178	164	259	253	96	87	462	486	57	58	.....	.....	.....	.....	.....	.....
Yukon	1,528	915	.....	.....	.....	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Indian Population	105,998	20,183	1,297	12,820	2,155	43,986	1,426	8,414	7,905	8,049	8,677	8,351	5,345	5,144	19,003	19,472	2,072	2,359	1,494	1,048	2,853	1,571	2,568	1,410
Baffin Land— ESKIMOS.																								
Hudson Strait	471	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Frobisher Bay	63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haven	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blacklead Island	134	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Keckerton Island	126	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Home Bay	90	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pond Inlet	140	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Admiralty Inlet	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	1,087	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mainland—																								
Port Burwell	109	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ungava Bay	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hudson Strait	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hudson Bay (east side)	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hudson Bay (west side) including Chesterfield inlet	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Franklin Isthmus to Liverpool Bay	350																								
Herschell Island and Mackenzie Delta an . Coast	250																								
Total	2,209																								
Total Eskimos	3,296																								
Total number of Indians and Eskimos	109,249																								

RECAPITULATION:—CENSUS OF INDIANS AND ESKIMOS

Arranged under Provinces and Districts

Provinces	Religion.								Under 6 years.		From 6 to 15 inclusive.		From 16 to 20 inclusive.		From 21 to 65 inclusive.		From 65 upwards.		Change in population.		Cause of increase.		Cause of decrease.	
	Number in Band.	Anglican.	Baptist.	Methodist.	Presbyterian.	Roman Catholic.	Other Christian Beliefs.	Aboriginal Beliefs.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Increase.	Decrease.	Births.	Migration.	Deaths.	Migration.
Alberta	8,837	1,247	.....	1,548	.....	3,704	.....	1,307	569	602	585	538	306	303	1,292	1,273	62	123	193	38	340	183	252	115
British Columbia	25,694	4,492	.....	3 075	585	13,039	369	1,421	1,993	1,931	2,152	2,132	1,320	1,327	5,389	5,297	528	567	315	357	618	142	641	162
Manitoba	11,583	3,636	110	3,128	592	1,919	423	1,370	1,074	1,124	1,181	1,048	861	794	2,071	2,307	321	397	.....	352	406	.....	337	421
New Brunswick	1,846	.....	.....	.....	.....	1,846	.....	.....	145	147	161	156	70	57	327	306	51	35	35	63	67	37	70	62
Nova Scotia	2,031	14	10	.....	.....	2,006	1	.....	178	217	200	187	136	134	433	397	79	70	19	107	46	22	65	91
Ontario	26,411	6,469	1,177	4,543	23	6,785	519	2,686	1,743	1,783	2,212	2,143	1,512	1,416	5,107	5,292	470	524	336	230	673	476	623	420
Prince Edward Island	292	.....	.....	.....	.....	292	.....	.....	20	30	33	28	19	17	65	58	14	8	.....	10	.....	.....	.....	10
Quebec	13,366	119	.....	452	6	8,655	20	.....	974	1,021	894	910	576	542	1,934	1,930	247	224	88	70	230	112	200	124
Saskatchewan	10,646	2,984	.....	74	949	4,289	94	1,630	1,075	1,061	1,053	1,013	467	490	2,015	2,233	250	363	684	.....	458	578	352	.....
Northwest Territories	3,764	307	.....	.....	.....	1,351	.....	.....	134	133	206	196	78	64	370	79	50	48	12	17	15	36	25	31
Yukon	1,528	915	.....	.....	.....	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Indian Population	105,998	20,183	1,297	12,820	2,155	43,986	1,426	8,414	7,905	8,049	8,677	8,351	5,345	5,144	19,003	19,472	2,072	2,359	1,681	1,244	2,853	1,586	2,566	1,436
ESKIMOS.																								
Baffin Land—																								
Hudson Strait	471	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Frobisher Bay	63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haven	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blacklead Island	134	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Keckerton Island	126	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Home Bay	90	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pond Inlet	140	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Admiralty Inlet	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	1,087	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mainland—																								
Port Burwell	109	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ungava Bay	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hudson Strait	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hudson Bay (east side)	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hudson Bay (west side- including Chesterfield inlet)	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Franklin Isthmus to Liverpool Bay	350	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Herschell Island and Mackenzie Delta and Coast	250	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	2,209	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Eskimos	3,296	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Number of Indians and Eskimos	109,249	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE No. 2: GRAIN, VEGETABLE AND ROOT PRODUCTION

Agencies	Wheat		Oats		Other Grains		Peas, Beans, etc.		Potatoes		Other Roots		Fodder		
	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Hay Cultivat'd	Hay Wild	Other Fodder
													Tons	Tons	Tons
ALBERTA															
Blackfoot	5,207	60,380	1,665	8,830	19	*	57	643	14	919	.....	.....	.....	1,091	551
Blood	2,521	60,537	812	12,899	156	4,160	.....	.....	.....	.....	.....	.....	.....	3,970	591
Edmonton	189	1,995	2,161	15,785	415	4,004	.....	.....	47	2,889	.....	.....	.....	1,602	653
Hobbema	413	798	2,531	2,294	356	233	.....	.....	14	834	30	.....	.....	2,235	519
Lesser Slave Lake	20	280	321	1,220	.....	.....	.....	.....	48	6,139	8	1,410	.....	3,720	465
Peigan	1,353	16,600	363	3,522	.....	.....	.....	.....	8	1,040	.....	.....	.....	575	173
Saddle Lake	495	6,764	461	4,890	16	145	.....	.....	21	1,448	7	113	.....	3,764	90
Sarcee	2	10	565	*	7	*8	.....	.....	5	304	2	80	8	98	314
Stony	.....	.....	.....	.....	.....	.....	.....	.....	10	40	10	240	100	200	.....
Total	10,200	147,364	8,879	49,440	969	8,550	57	643	167	13,613	57	1,843	108	17,255	3,356
BRITISH COLUMBIA															
Babine	.....	.....	82	†	.....	.....	.....	.....	191	23,530	63	9,740	700	252	141
Bella Coola	.....	.....	.....	.....	.....	.....	.....	.....	11	1,050	2	150	35	305	.....
Cowichan	47	1,575	332	14,425	.....	.....	.....	.....	169	4,700	.....	.....	1,248	.....	.....
Kamloops	593	15,050	1,274	45,190	154	3,530	487	12,169	929	153,295	584	20,542	4,555	712	504
†Kootenay	53	500	676	.....	64	.....	.....	.....	36	1,870	14	325	1,105	765	51
Kwawkewlth	.....	.....	.....	.....	.....	.....	.....	.....	2	250	.....	.....	.....	.....	.....
Lytton	160	3,855	205	5,450	31	855	309	11,205	232	45,475	11	275	1,244	.....	29
New Westminster	5	115	346	18,040	6	170	30	830	156	11,295	30	2,205	447	248	.....
Okanagan	1,120	1,500	680	13,050	117	2,100	66	1,550	280	11,950	119	2,895	1,975	1,275	335
Queen Charlotte	.....	.....	3	52	.....	.....	.....	.....	37	1,500	.....	.....	7	8	.....
Skeena River	.....	.....	1	15	.....	.....	2	175	257	23,400	8	750	16	35	.....
Stikine	.....	.....	.....	.....	.....	.....	.....	.....	2	20	.....	.....	.....	39	.....
Stuart Lake	1	35	207	1,400	1	.....	.....	.....	33	4,360	11	1,350	534	1,800	323
Vancouver	.....	.....	25	1,150	6	220	12	380	55	7,730	11	1,375	72	55	.....
West Coast	.....	.....	.....	.....	.....	.....	8	3	2	89	1	19	.....	.....	.....
Williams Lake	123	2,425	277	11,345	.....	.....	.....	.....	109	6,310	83	.....	1,129	1,923	.....
Total	2,102	25,055	4,108	110,117	379	6,875	914	26,312	2,501	296,824	937	39,626	13,067	7,417	1,383
MANITOBA															
Birtle	472	5,279	653	5,026	541	3,120	5	110	14	1,223	2	190	.....	2,103	284
Clandeboye	.....	.....	23	682	9	252	.....	.....	88	11,457	16	2,190	.....	1,984	15
Fisher River	55	1,063	332	9,222	97	2,028	.....	.....	49	3,768	1	360	.....	3,396	82
Griswold	.. 1,230	9,712	317	5,025	420	6,796	.....	.....	29	2,590	13	550	.....	928	94
Manitowapah	6	‡	38	‡	.....	.....	.....	.....	87	9,464	8	306	.....	4,515	.....
Norway House	.....	.....	.....	.....	.....	.....	.....	.....	74	1,940	.....	20	.....	220	.....

Pas	.....	.....	.....	.....	.....	.....	.....	.....	46	3,855	.....	.....	.....	1,509	.....
Portage la Prairie	1,714	26,443	577	13,377	473	10,354	.....	.....	9	1,067	.....	.....	.....	585	119
Total	3,477	42,497	1,940	33,332	1,540	22,550	5	110	395	35,364	40	1,616	.....	15,240	594
NEW BRUNSWICK															
Northern Division	6	60	30	440	15	176	5	32	12	380	3	28	405	.....	.....
Northeastern Division	10	121	88	1,515	8	99	3	33	51	5,525	10	1,415	118	39	7
Southwestern Division	1	10	2	40	4	140	1	26	8	560	1	20	2	.....	.....
Total	17	191	120	1,995	27	415	9	91	71	6,465	14	1,463	525	39	7
NOVA SCOTIA															
Annapolis	.....	.....	.....	.....	.....	.....	2	10	3	242	1	12	2	.....	.....
Antigonish and Guysboro'	1	25	3	86	.....	.....	2	31	6	310	3	67	35	12	9
Cape Breton (Eskasoni)	2	25	5	65	2	25	1	8	10	200	3	75	80	40	25
Cape Breton (Sydney)	.....	.....	.....	.....	.....	.....	.....	.....	2	100	.....	.....	.....	.....	.....
Colchester	.....	.....	2	.....	.....	.....	.....	.....	2½	300	.....	.....	5	.....	2½
§Cumberland	.....	.....	2	.....	.....	.....	.....	.....	3	310	.....	.....	2	.....	.....
Digby	.....	.....	.....	.....	.....	.....	.....	.....	5	245	.....	.....	6	1	.....
Halifax	.....	.....	4	140	.....	.....	1	2	18	360	.....	100	21	12	.....
Hants	.....	.....	2	40	.....	.....	1	10	4	200	1	20	10	4	.....
Inverness	.....	.....	5	71	.....	.....	½	14	8	470	½	40	18	83	6
Kings	.....	.....	1	18	½	8	½	3	2	100	1	40	5	5	.....
Lunenburg	.....	.....	.....	.....	.....	.....	1	8	9	705	½	20	32	21	.....
Pictou	.....	.....	.....	3	.....	.....	.....	.....	2	490	½	8	.....	7	.....
Queens	1	25	.....	.....	.....	.....	.....	.....	4	125	.....	.....	1	.....	.....
Richmond	.....	.....	24	450	.....	.....	2	30	12	341	½	50	43	3	.....
Shelburne	.....	.....	.....	.....	.....	5	.....	4	.....	40	.....	12	2	.....	.....
Victoria	.....	.....	5	50	.....	.....	1	4	16	310	½	15	95	10	10
Yarmouth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	4	75	53	923	2½	38	12	124	106½	4,848	11½	459	357	198	72½
ONTARIO															
Alnwick	48	610	174	4,545	119	2,210	1	5	15	1,270	8	1,840	169	9	28
Cape Croker	100	1,768	220	4,367	38	570	30	600	35	3,150	10	700	150	40	35
Caradoc	270	2,700	950	19,000	185	2,775	61	442	225	5,700	155	3,850	1,850	70	235
Chapleau	.....	.....	.....	.....	.....	.....	12	880	.....	.....	.....	.....	.....	.....	.....
Christian Island	10	120	110	1,800	10	150	20	140	15	350	3	150	50	.....	.....
Fort Frances	65	615	75	1,055	14	39	.....	.....	25	3,200	2	335	348	110	.....
Fort William	.....	.....	.....	.....	.....	.....	.....	.....	25	1,125	.....	.....	20	12	.....
Georgina Island	20	100	50	120	10	.....	.....	.....	6	400	.....	.....	30	6	20
Golden Lake	10	50	15	45	10	40	.....	.....	6	300	.....	.....	10	20	.....
Gore Bay	.....	.....	140	2,150	13	181	14	151	105	5,805	17	570	223	32	164
Kenora	.....	.....	.....	.....	.....	.....	.....	.....	41	3,540	11	217	3	310	.....
Manitowaning	426	655	721	3,095	362	1,358	272	894	484	33,710	90	650	781	175	120
Moravian	126	1,104	276	4,266	271	6,701	41	686	46	1,207	17	870	235	12	24
New Credit	118	2,130	568	12,885	136	2,720	9	129	8	650	4	247	799	.....	411

*Cut green for fodder.
†Crops cut green for food and much destroyed by grasshoppers.
‡Flooded.
§Cut green for food.

TABLE No. 2: GRAIN, VEGETABLE AND ROOT PRODUCTION—*Continued*

Agencies	Wheat		Oats		Other Grains		Peas, Beans, etc.		Potatoes		Other Roots		Fodder		
	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Acres Sown	Bush. Harvested	Hay Cultivated	Hay Wild	Other Fodder
													Tons	Tons	Tons
ONTARIO—*Con.*															
Parry Sound	.....	.....	62	1,015	17	140	5	90	36	625	9	315	380	55	.....
Rama	16	410	44	875	3	90	8	200	30	1,500	2	50	78	10	25
Rice Lake	62	1,500	261	7,500	48	1,260	9	145	41	4,200	20	7,500	205	22	78
Sarnia	335	5,875	630	17,050	150	3,025	84	580	138	6,720	20	770	130	300	92
Saugeen	15	200	210	7,000	50	1,000	6	150	40	1,800	12	250	130	5	135
Sault Ste. Marie	10	135	125	4,650	.....	.....	16	225	118	6,575	17	740	115	105	.....
Savanne	.....	.....	.....	.....	.....	.....	.....	.....	21	1,950	6	117	47	.....	.....
Scugog	5	50	25	300	.....	.....	3	23	2	200	.....	.....	10	5	.....
Six Nations	1,540	16,000	7,500	160,420	1,630	31,420	65	720	160	3,400	980	8,540	11,450	.....	8,200
Sturgeon Falls	6	200	30	900	12	360	7	150	31	3,000	8	310	45	43	.....
Thessalon	.....	.....	53	415	.....	.....	14	140	79	3,980	3	150	97	67	.....
Tyendinaga	40	1,000	750	22,500	250	8,500	30	600	75	3,000	3	300	1,000	30	3,000
Total	3,222	35,222	12,989	275,953	3,328	62,539	707	6,950	1,807	97,357	1,397	28,471	18,355	1,438	12,567
PRINCE EDWARD ISLAND	7	60	40	410	.....	.....	.....	.....	20	1,500	1	50	60	45	.....
QUEBEC															
Becancour	.....	.....	18	160	½	10	.....	.....	½	75	.....	.....	.....	18	.....
Bersimis	2	12	3	42	4	27	.....	.....	8	375	.....	.....	20	12	.....
Cacouna	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Caughnawaga	10	150	500	6,000	100	1,000	10	100	250	10,000	5	200	400	.....	10
Jeune Lorette	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maniwaki	10	94	172	3,000	2	24	6	36	28	2,355	3	565	204	21	93
Maria	6	50	55	650	4	35	.....	.....	7	180	1	12	15	40	.....
Mingan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oka	40	300	250	3,750	25	300	15	200	30	650	5	40	250	25	150
Pierreville	.....	.....	35	500	20	250	6	25	25	300	.....	.....	50	75	.....
Pointe Bleue	68	816	640	8,700	250	2,600	50	800	235	6,200	10	150	400	10	100
Restigouche	.....	.....	213	3,900	.....	.....	1	23	83	3,400	.....	.....	80	.....	.....
Seven Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Regis	145	2,965	470	7,575	84	800	6¼	850	330	5,800	53	1,974	310	230	600
Timiskaming	55	660	118	3,540	6	110	4	55	12	960	3	55	116	.....	75
Total	336	5,047	2,474	37,817	495½	5,156	156	2,089	1,008½	30,295	80	2,996	1,845	431	1,028
SASKATCHEWAN															
Assiniboine	563	8,153	625	5,571	90	1,900	3	.....	6	753	2	203	.....	1,073	661
Battleford	1,315	14,169	1,042	15,640	20	380	.....	.....	23	1,989	11	751	.....	3,658	516
Carlton	1,039	14,942	1,269	16,754	189	1,635	.....	.....	190	1,005	.....	.....	.....	3,242	62
Crooked Lakes	1,622	22,832	1,584	37,984	.....	.....	.....	.....	18	1,621	12	238	.....	1,814	235
Duck Lake	1,131	18,577	740	17,411	46	768	.....	.....	19	1,350	2	77	.....	4,693	78
File Hills Agency	116	1,802	421	8,748	.....	.....	4	400	6	845	1	100	.....	1,075	69
File Hills Colony	841	14,232	2,281	47,382	.....	.....	3	80	6	575	2	335	.....	905	388

Moose Mountain	508	8,626	324	6,504	124	2,786	.....	.....	12	1,300	2	200	.....	796	40
Moose Woods	6	50	62	1,185	.....	.....	.....	.....	9	645	.....	.....	.....	1,075	12
Onion Lake	273	4,343	1,093	23,849	20	228	.....	.....	16	1,961	5	1,055	.....	5,309	210
Pelly	202	3,824	1,165	21,929	141	3,336	.....	.....	6	875	.....	.....	1,056	.....	30,500
Qu'Appelle	2,419	35,282	1,483	19,960	20	206	.....	.....	15	1,265	.....	.....	.....	1,610	164
Touchwood	1,597	13,980	1,432	12,817	65	288	.....	.....	19	1,464	14	1,379	.....	3,259	1,120
Total	11,632	160,812	13,521	235,734	715	11,527	10	480	345	15,648	51	4,338	1,056	28,509	34,055
YUKON TERRITORY															
YUKON AGENCY	.....	.....	.....	.....	.....	.....	.....	.....	2	120	½	80	.....	9	.....

RECAPITULATION

PROVINCES															
Alberta	10,200	147,364	8,879	49,440	969	8,550	57	643	167	13,613	57	1,843	108	17,255	3,356
British Columbia	2,102	25,055	4,108	110,117	379	6,875	914	26,312	2,501	296,824	937	39,626	13,067	7,417	1,383
Manitoba	3,477	42,497	1,940	33,332	1,540	22,550	5	110	395	35,364	40	1,616	.....	15,240	594
New Brunswick	17	191	120	1,995	27	415	9	91	71	6,465	14	1,463	525	39	7
Nova Scotia	4	75	53	923	2½	38	12	124	106½	4,848	11½	459	357	198	72½
Ontario	3,222	35,222	12,989	275,953	3,328	62,539	707	6,950	1,807	97,357	1,397	28,471	18,355	1,438	12,567
Prince Edward Island	7	60	40	410	.....	.....	.....	.....	20	1,500	1	50	60	45	.....
Quebec	336	5,047	2,474	37,817	495½	5,156	156	2,089	1,008½	30,295	80	2,996	1,845	431	1,028
Saskatchewan	11,632	160,812	13,521	235,734	715	11,527	10	480	345	15,648	51	4,338	1,056	28,509	34,055
Yukon Territory	.....	.....	.....	.....	.....	.....	.....	.....	2	120	½	80	.....	9	.....
Total	30,997	416,323	44,124	1,155,311	7,456	117,650	1,870	36,799	6,423	502,034	2,589	80,942	35,373	70,581	53,062½

TABLE No. 3: LAND: PRIVATE AND PUBLIC BUILDINGS AND PROPERTY

Agencies	Total Area of Reserve Acres	Acres Under Wood	Acres Cleared but not Cultivated	Acres Under Actual Cultivation	Acres Fenced	Private Property							Public Property					
						Stone, Brick and Frame Dwellings	Other Dwellings	Outbuildings, etc.	Ploughs, Harrows, Drills, etc.	Mowers, Reapers, Binders, Threshers, etc.	Carts, Wagons, and Vehicles	Tools and Small Implements	Churches	Council Houses	School Houses	Saw Mills	Other Buildings	Engines and Machinery
ALBERTA																		
Blackfoot	175,580	3,300	141,161	31,119	49,996	134	104	615	530	306	310	615	.....	.....	2	.....	22	180
Blood	354,086	4,700	336,969	12,417	45,000	50	265	410	260	175	450	2,500	1	2	1	1	75	70
Edmonton	82,101	33,431	45,426	3,244	12,865	28	120	192	223	161	232	1,236	2	.....	2	.....	9	7
Hobbema	76,420	72,405	671	3,344	26,668	.....	174	211	287	262	376	1,079	.....	.....	.....	.....	.....	.....
Lesser Slave Lake	251,415	150,684	100,332	399	1,127	.....	247	388	88	73	222	994	2	.....	.....	.....	.....	.....
Peigan	93,142	700	89,565	2,877	54,550	20	74	88	169	78	164	1,000	2	1	.....	.....	13	48
Saddle Lake	117,221	37,154	79,067	1,000	68,282	2	176	215	129	129	271	743	.....	.....	.....	.....	.....	1
Sarcee	69,120	40,000	28,387	733	69,120	39	3	34	48	47	104	250	2	1	1	.....	2	7
Stony	88,258	40,000	48,208	50	11,000	10	131	90	51	67	250	.....	.....	3	.....	.....	.....	.....
Total	1,307,343	382,374	869,786	55,183	338,608	283	1,294	2,243	1,785	1,298	2,379	8,417	9	7	6	1	121	313
BRITISH COLUMBIA																		
Babine	28,414	18,865	8,091	1,458	1,523	380	331	404	83	47	219	4,770	10	7	5	2	.....	.....
Bella Coola	17,348	17,127	135	86	1,214	256	140	320	28	13	40	1,200	5	4	4	.....	.....	.....
Cowichan	19,920	11,073	5,388	3,459	5,579	608	31	306	317	97	429	5,195	2	.....	8	.....	.....	.....
Kamloops	171,079	87,748	74,217	9,114	106,205	252	322	659	1,122	426	513	1,486	16	5	3	.....	.....	6
Kootenay	42,316	16,800	23,949	1,567	2,332	49	149	191	236	58	210	330	5	.....	1	.....	.....	.....
Kwawkewlth	16,395	15,933	448	14	22	158	136	.....	.....	.....	.....	2,110	.....	.....	2	.....	.....	3
Lytton	55,360	33,218	18,717	3,425	5,711	484	358	392	475	118	398	3,034	34	5	1	.....	.....	4
New Westminster	23,957	17,637	4,931	1,389	4,910	361	.....	208	91	32	105	1,129	16	4	3	.....	.....	.....
Okanagan	146,086	54,900	86,426	4,760	44,750	197	168	687	580	77	484	1,900	10	3	1	.....	13	9
Queen Charlotte	3,484	2,474	970	40	40	165	70	80	4	1	1	675	3	2	1	1	5	85
Skeena River	71,592	70,881	446	265	202	501	84	187	3	.....	4	400	12	7	7	1	.....	.....
Stikine	415	15	399	1	1	11	87	.....	.....	.....	7	2,060	.....	.....	.....	.....	.....	.....
Stuart Lake	34,594	29,471	4,183	940	3,820	43	257	311	69	48	145	2,540	15	.....	.....	.....	5	.....
Vancouver	17,560	16,204	840	516	407	272	76	134	23	3	14	695	8	3	4	.....	1	.....
West Coast	12,364	11,897	372	95	152	384	217	5	.....	.....	.....	230	6	.....	6	.....	.....	.....
Williams Lake	73,007	29,651	41,401	1,955	43,983	12	233	125	142	130	225	555	11	3	.....	2	1	3
Total	733,891	433,894	270,913	29,084	220,851	4,133	2,659	4,009	3,173	1,050	2,794	28,309	153	43	46	6	25	110
MANITOBA																		
Birtle	52,809	31,213	18,056	3,540	10,855	22	106	206	184	115	303	1,670	4	.....	1	.....	.....	2
Clandeboye	65,496	54,150	10,872	474	806	6	390	159	51	16	44	341	10	.....	14	.....	5	.....
Fisher River	86,860	85,735	493	632	4,025	.....	253	262	71	95	159	.....	6	2	5	.....	10	2
Griswold	12,294	900	8,166	3,228	1,390	36	59	139	178	98	270	510	1	.....	1	.....	5	.....
Manitowapah	94,477	46,194	48,066	217	2,551	2	330	417	80	165	322	1,310	10	.....	9	.....	11	.....
Norway House	26,208	20,480	5,655	73	70	2	468	41	7	.....	.....	440	.....	.....	1	.....	2	.....

Pas	54,881	44,631	10,158	92	209	36	364	146	27	28	25	400	11	.....	6	1	7	.....
Portage la Prairie	22,452	3,800	14,278	4,374	3,850	.....	122	161	86	79	179	430	1	.....	2	.....	10	6
Total	415,477	287,103	115,744	12,630	23,756	104	2,092	1,531	684	596	1,302	5,101	43	2	39	1	50	10
NEW BRUNSWICK																		
Northern Division	6,506	6,066	247	193	230	54	4	25	10	4	20	55	1	1	2	.....	.....	.....
Northeastern Division	13,227	12,314	745	168	913	225	37	135	66	22	104	565	3	1	5	0	7	.....
Southwestern Division	1,049	957	75	17	68	57	.....	26	5	.....	10	350	.....	2	4	.....	.....	.....
Total	20,782	19,337	1,067	378	1,211	336	41	186	81	26	134	970	4	4	11	0	7	.....
NOVA SCOTIA																		
Annapolis	627	608	10	9	9	19	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Antigonish and Guysboro'	634	309	255	70	200	42	11	14	5	.....	9	85	1	.....	1	.....	.....	.....
Cape Breton (Eskasoni)	2,800	2,000	450	350	900	24	.....	27	13	6	25	75	1	.....	1	.....	.....	.....
Cape Breton (Sydney)	659	600	54	5	10	2	15	10	1	.....	.....	150	.....	.....	.....	.....	.....	.....
Colchester	225	150	60	15	50	32	.....	10	5	1	10	100	1	.....	1	.....	1	.....
Cumberland	1,020	990	25	5	20	20	.....	3	2	.....	4	195	1	.....	.....	.....	.....	.....
Digby	1,600	1,200	350	50	100	19	.....	4	.....	.....	.....	50	1	.....	1	.....	.....	.....
Halifax	1,345	1,178	101	66	66	28	4	2	2	.....	3	.....	.....	.....	.....	.....	.....	.....
Hants	3,250	2,850	300	100	10	9	.....	13	.....	.....	4	600	.....	.....	.....	.....	.....	.....
Inverness	2,755	1,950	729	76	554	42	4	4	17	4	15	135	1	1	2	.....	1	.....
Kings	460	405	45	10	20	8	.....	.....	4	.....	3	60	.....	.....	.....	.....	.....	.....
Lunenburg	2,953	2,717	227	9	132	25	.....	21	6	1	4	118	.....	.....	1	.....	.....	.....
Pictou	275	93	162	20	16	29	.....	4	.....	.....	6	100	2	.....	1	.....	1	.....
Queens	1,000	600	200	200	300	17	2	5	3	1	6	200	.....	.....	.....	.....	.....	.....
Richmond	1,281	850	230	201	225	30	10	18	20	2	30	200	1	1	1	.....	3	2
Shelburne	.....	.....	.....	.....	.....	7	.....	3	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Victoria	796	496	240	60	80	16	1	10	9	1	12	115	.....	.....	1	.....	2	.....
Yarmouth	21	12	5	4	10	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Total	21,701	17,008	3,443	1,250	2,702	370	47	153	87	16	133	2,183	9	2	10	.....	8	2
ONTARIO																		
Alnwick	3,575	900	125	2,550	2,800	40	.....	37	63	30	55	375	1	1	1	.....	.....	1
Cape Croker	15,586	10,036	4,950	600	850	32	69	120	165	38	125	600	2	1	3	1	4	4
Caradoc	14,357	1,375	7,401	5,581	10,600	249	124	393	628	189	503	1,350	9	3	6	0	15	3
Chapleau	45,227	44,871	331	25	6	12	.....	.....	.....	.....	.....	250	3	.....	1	.....	.....	.....
Christian Island	13,264	12,444	500	320	500	22	20	25	25	6	25	100	2	1	1	1	.....	1
Fort Frances	81,707	80,587	461	659	1,410	18	134	37	28	10	21	800	.....	.....	2	.....	3	7
Fort William	42,307	41,930	305	72	49	86	85	14	6	.....	4	290	7	2	5	.....	2	.....
Georgina Island	3,574	2,792	592	190	400	14	22	51	45	10	28	150	1	1	1	.....	.....	2
Golden Lake	1,500	1,200	260	40	270	4	17	14	12	.....	12	200	1	.....	1	.....	.....	1
Gore Bay	14,570	11,929	1,691	950	1,884	15	111	300	129	27	173	610	4	.....	4	.....	2	3
Kenora	122,753	122,438	226	89	301	.....	188	124	31	.....	60	5,150	.....	.....	2	.....	.....	.....
Manitowaning	179,685	146,803	27,593	5,289	10,240	59	511	1,325	523	310	882	4,055	12	3	8	.....	10	10
Moravian	31,030	28,830	1,200	1,000	2,506	37	36	98	99	34	103	114	2	1	1	.....	1	1
New Credit	6,000	75	1,850	4,075	6,000	66	5	108	156	43	130	450	1	1	1	.....	5	1
Parry Sound	76,245	74,195	1,210	840	1,300	37	88	49	78	26	52	165	8	1	5	1	1	3
Rama	2,300	1,150	940	210	1,250	52	9	41	11	7	18	200	1	1	1	.....	9	.....
Rice Lake	3,860	1,900	810	1,150	2,150	47	15	70	82	44	75	180	2	2	2	.....	2	.....
Sarnia	50,223	41,562	7,082	1,579	13,890	187	117	472	435	192	485	.....	7	4	5	2	9	7
Saugeen	9,020	4,000	4,457	563	1,800	52	28	130	180	45	125	300	5	1	3	.....	4	.....
Sault Ste. Marie	39,600	36,325	1,437	1,838	1,916	61	91	138	85	17	172	1,375	5	1	3	.....	2	5
Savanne	101,267	100,705	506	56	111	.....	162	39	10	.....	5	3,800	.....	.....	1	.....	.....	.....
Scugog	800	60	225	515	800	8	2	10	10	3	11	60	1	.....	.....	.....	1	.....
Six Nations	43,696	8,820	7,860	27,016	43,696	553	225	1,640	2,290	498	1,640	9,980	15	1	11	.....	22	44
Sturgeon Falls	64,800	64,315	.....	485	308	57	77	89	40	6	87	56	4	.....	3	.....	.....	.....

TABLE No. 3: LAND: PRIVATE AND PUBLIC BUILDINGS AND PROPERTY—*Concluded*

Agencies	Total Area of Reserve Acres	Acres Under Wood	Acres Cleared but not Cultivated	Acres Under Actual Cultivation	Acres Fenced	Private Property: Stone, Brick and Frame Dwellings	Private Property: Other Dwellings	Private Property: Outbuildings, etc.	Private Property: Ploughs, Harrows, Drills, etc.	Private Property: Mowers, Reapers, Binders, Threshers, etc.	Private Property: Carts, Wagons, and Vehicles	Private Property: Tools and Small Implements	Public Property: Churches	Public Property: Council Houses	Public Property: School Houses	Public Property: Saw Mills	Public Property: Other Buildings	Public Property: Engines and Machinery
ONTARIO—*Con.*																		
Thessalon	60,374	58,827	740	807	804	34	82	132	18	3	39	1,005	4	.....	5	.....	.....	1
Tyendinaga	17,604	7,134	2,630	7,840	13,720	237	.....	556	450	230	450	825	2	1	4	.....	3	2
Total	1,044,924	905,203	75,382	64,339	119,561	1,979	2,213	6,012	5,599	1,768	5,280	23,480	99	26	80	5	95	96
PRINCE EDWARD ISLAND	1,527	726	400	401	401	50	20	25	30	2	5	400	1	1	2	.....	3	2
QUEBEC																		
Becancour	122	6	.....	116	90	5	1	7	4	2	5	50	.....	.....	.....	.....	.....	.....
Bersimis	63,197	61,530	1,561	106	70	.....	102	20	7	.....	22	365	1	.....	1	.....	1	.....
Cacouna	300	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Caughnawaga	12,327	1,000	7,000	4,327	5,050	560	.....	1,020	250	150	1,260	1,000	1	1	7	.....	6	10
Jeune Lorette	27	.....	27	.....	20	90	.....	22	.....	.....	32	200	1	.....	1	.....	1	2
Maniwaki	44,537	42,878	231	1,428	728	4	65	104	66	37	110	532	.....	1	2	.....	2	.....
Maria	416	80	193	143	.....	2	42	11	4	8	7	110	1	.....	1	.....	.....	1
Mingan	.....	.....	.....	.....	.....	18	.....	6	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Oka	.....	.....	.....	.....	.....	100	.....	110	75	35	140	1,000	1	.....	1	.....	1	1
Pierreville	579	.....	354	225	275	4	68	50	15	5	15	200	2	1	2	.....	.....	.....
Pointe Bleue	3,779	2,100	500	1,179	1,360	63	19	146	60	45	167	350	1	.....	1	.....	1	6
Restigouche	8,856	8,200	279	377	606	94	8	190	32	4	87	280	1	1	1	1	4	3
Seven Islands	6	.....	6	.....	.....	62	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
St. Regis	6,938	80	5,340	1,518	590	215	32	241	478	197	315	1,477	2	1	6	.....	11	12
Timiskaming	34,136	31,540	2,200	396	200	14	30	40	24	8	31	320	.....	.....	1	.....	3	2
Total	175,220	147,714	17,691	9,815	8,989	1,231	367	1,967	1,015	491	2,191	5,884	13	5	24	1	30	37
SASKATCHEWAN																		
Assiniboine	40,897	27,264	10,986	2,647	15,335	12	35	101	69	77	152	429	.....	2	1	.....	4	4
Battleford	181,781	23,250	155,040	3,491	38,940	3	304	323	316	291	451	1,560	5	.....	2	1	13	8
Carlton	193,153	82,724	107,932	2,497	25,183	.....	277	413	247	198	401	1,238	5	1	6	1	19	8
Crooked Lakes	112,442	14,200	93,049	5,193	16,100	6	186	254	248	190	260	225	1	.....	.....	.....	.....	.....
Duck Lake	109,098	25,991	79,710	3,397	20,268	9	154	325	296	219	392	421	3	1	4	.....	.....	7
File Hills Agency	65,614	25,000	39,788	826	13,662	10	37	48	31	34	86	330	1	.....	1	.....	.....	.....
File Hills Colony	18,840	2,000	12,118	4,722	14,302	19	14	110	120	70	98	350	2	.....	.....	.....	2	3
Moose Mountain	30,088	25,486	3,012	1,590	30,088	1	58	70	70	45	110	150	1	1	1	.....	1	2
Moose Woods	4,160	1,368	2,654	138	487	2	19	31	22	16	49	48	.....	.....	1	.....	.....	.....

Onion Lake	197,834	53,218	143,209	1,407	6,900	3	184	133	70	86	357	1,650	.....	.....	.....	2	.....	1
Pelly	55,472	19,800	33,920	1,752	7,225	7	98	194	161	124	256	820	4	.....	3	.....	2	1
Qu'Appelle	63,817	6,900	46,969	9,948	30,460	35	136	250	265	198	505	900	4	4	.....	.....	.....	7
Touchwood	117,198	67,229	43,345	6,624	46,692	12	189	343	337	262	381	1,420	3	.....	4	.....	12	14
Total	1,190,394	374,430	771,732	44,232	265,642	119	1,691	2,595	2,252	1,810	3,498	9,541	29	9	23	4	53	55

RECAPITULATION

Provinces																		
Alberta	1,307,343	382,374	869,786	55,183	338,608	283	1,294	2,243	1,785	1,298	2,379	8,417	9	7	6	1	121	313
British Columbia	733,891	433,894	270,913	29,084	220,851	4,133	2,659	4,009	3,173	1,050	2,794	28,309	153	43	46	6	25	110
Manitoba	415,477	287,103	115,744	12,630	23,756	104	2,092	1,531	684	596	1,302	5,101	43	2	39	1	50	10
New Brunswick	20,782	19,337	1,067	378	1,211	336	41	186	81	26	134	970	4	4	11	.....	7	.....
Nova Scotia	21,701	17,008	3,443	1,250	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ontario	1,044,924	905,203	75,382	64,339	119,561	1,979	2,213	6,012	5,599	1,768	5,280	23,480	99	26	80	5	95	96
Prince Edward Island	1,527	726	400	401	401	50	20	25	30	2	5	400	1	1	2	.....	3	2
Quebec	175,220	147,714	17,691	9,815	8,989	1,231	367	1,967	1,015	491	2,191	5,884	13	5	24	1	30	37
Saskatchewan	1,190,394	374,430	771,732	44,232	265,642	119	1,691	2,595	2,252	1,810	3,498	9,541	29	9	23	4	53	55
Total	4,911,259	2,567,789	2,126,158	217,312	979,019	8,235	10,377	18,568	14,619	7,041	17,583	82,102	351	97	231	18	384	623

TABLE No. 4: LIVE STOCK AND POULTRY: GENERAL EFFECTS

Agencies	Horses			Cattle					Poultry	General Effects					
	Stallions	Geldings and Mares	Foals	Bulls	Steers and Work Oxen	Milch Cows	Young Stock	Other Stock		Motor and Sail Boats	Row Boats and Canoes	Rifles and Shot Guns	Steel Traps	Nets	Tents
ALBERTA															
Blackfoot	.....	3,755	.....	28	197	379	664	.....	200	.....	.....	32	61	.....	163
Blood	15	3,591	696	28	329	773	718	6	350	.....	1	50	300	.....	325
Edmonton	.....	498	.....	10	45	244	108	56	.....	.....	9	143	578	55	117
Hobbema	.....	1,138	163	.....	59	205	206	8	198	.....	.....	158	661	67	158
Lesser Slave Lake	43	831	149	12	57	155	196	.....	.....	.....	244	604	5,352	382	472
Peigan	6	1,201	170	17	.....	.....	.....	1,176	.....	.....	.....	48	154	.....	93
Saddle Lake	2	537	.....	7	48	295	280	39	425	.....	85	187	2,086	190	133
Sarcee	5	765	.....	7	17	88	110	12	80	.....	.....	15	100	.....	60
Stony	15	1,000	100	.....	.....	135	174	.....	.....	.....	.....	162	800	200	.....
Total	86	13,316	1,278	109	752	2,274	2,456	1,297	1,253	.....	339	1,399	10,092	894	1,521
BRITISH COLUMBIA															
Babine	9	495	77	9	198	209	136	34	70	25	201	1,314	25,800	328	210
Bella Coola	3	325	32	5	44	218	53	3	525	145	175	605	4,100	115	72
Cowichan	2	215	40	3	.....	175	46	980	9,600	210	317	566	23	100	195
Kamloops	79	4,060	639	87	189	2,640	596	663	5,490	.....	59	303	116	.....	409
Kootenay	12	1,415	248	12	47	759	455	13	532	.....	57	176	365	.....	137
Kwawkewlth	.....	.....	.....	.....	.....	3	4	7	230	126	316	282	2,720	221	109
Lytton	27	677	178	33	106	101	403	392	2,282	6	100	325	5,966	65	198
New Westminster	6	314	50	9	91	237	183	558	3,665	47	232	354	1,465	98	72
Okanagan	40	1,480	246	49	1,215	1,624	1,327	631	5,550	2	63	392	845	26	290
Queen Charlotte	.....	5	1	4	7	54	32	.....	230	38	57	105	55	27	40
Skeena River	3	12	.....	3	.....	18	5	10	841	212	324	527	4,050	365	313
Stikine	.....	18	1	.....	.....	.....	.....	.....	.....	2	70	403	2,790	158	166
Stuart Lake	7	460	71	10	69	252	162	2	190	7	249	612	5,020	278	178
Vancouver	.....	29	2	4	8	31	44	101	1,442	78	179	266	110	71	49
West Coast	.....	.....	.....	12	.....	42	42	.....	913	267	1,272	782	2,274	228	199
Williams Lake	72	2,453	447	51	723	44	413	516	1,005	.....	38	330	4,165	20	239
Total	260	11,958	2,032	291	2,697	6,407	3,901	3,910	32,565	1,165	3,709	7,342	59,864	2,100	2,876
MANITOBA															
Birtle	2	424	20	2	39	55	61	9	682	.....	.....	105	994	.....	99
Clandeboye	.....	58	2	19	163	173	180	56	270	4	530	630	5,600	970	461
Fisher River	2	210	.....	7	111	325	451	32	780	.....	67	165	1,700	600	96
Griswold	.....	281	.....	.....	.....	12	4	2	446	.....	7	125	1,890	3	85
Manitowapah	5	531	20	25	52	557	735	29	555	53	332	466	5,400	1,180	234
Norway House	.....	3	.....	1	11	33	30	470	.....	.....	735	970	2,650	1,940	605
Pas	.....	130	11	2	4	156	242	.....	15	1	570	680	17,500	990	495
Portage la Prairie	1	215	13	2	2	24	17	12	525	.....	15	109	1,320	.....	70
Total	10	1,852	66	58	382	1,335	1,720	610	3,273	58	2,256	3,250	37,054	5,683	2,145

NEW BRUNSWICK															
Northern Division		10				7	9	3	76	7	13	73			5
Northeastern Division		28		1		28	16	4	263	37	119	175	275	282	36
Southwestern Division		4				3		2	75		25	69	810		24
Total		42		1		38	25	9	414	44	157	317	1,085	282	65
NOVA SCOTIA															
Annapolis						1			22		3	10	45		7
Antigonish and Guysboro'		3			5	5	5	28	130	1	5	28	26	7	5
Cape Breton (Eskasoni)		6	2	1		25	19		150	3	9	10	100	5	1
Cape Breton (Sydney)															
Colchester		7				3			20		2	20	60		1
Cumberland		2				1					4	14	50		1
Digby						1			75		6	11	200		6
Halifax		2				8	10		125		4	6	20		
Hants						2	2		20	1	2	15	100	3	1
Inverness		10				17	8		70	1	16	31	340	1	
Kings		1				2	2	1	15		3	10	80		3
Lunenburg		5			3	10	6	11	95		6	8	17	3	2
Pictou		1								2	7	35	50		
Queens		1		2	2	4	4	4	50		5	15	10	5	10
Richmond		13			2	15	12		50	3	12	25	75		
Shelburne					1						2	10	75		1
Victoria		4	2	1		12	9		35		8	27	135		
Yarmouth												2			
Total		55	4	4	13	106	77	44	857	— 11	94	277	1,383	24	38
ONTARIO															
Alnwick		47		1		50	34	12	784	4	28	34	2,275		13
Cape Croker	2	160	12	1	10	120	175	130	750	10	26	28	100	90	10
Caradoc	3	345	24	6	100	175	110	213	4,250		6	200	655		8
Chapleau						5	10	2	275	15	300	325	3,700	150	175
Christian Island		45		1	5	15	22	75	400	16	15	40	200	8	15
Fort Frances	10	97	3	2	3	11	12	2	155	6	238	269	3,825	504	107
Fort William		22		1		20	22		370	21	332	487	1,120	410	240
Georgina Island		25		1		20	18	10	250	6	20	15	175	15	10
Golden Lake		7				11	6		200	1	20	40	200	5	20
Gore Bay		103	1	3	16	60	50	142	559	14	12	54	198	44	
Kenora	1	90		4	4	14	5			8	285	320	7,650	370	230
Manitowaning	2	457	59	12		213	198	308	1,959	111	123	342	2,439	229	81
Moravian	1	85	2	1	4	50	17	24	1,561		2	35	75	12	2
New Credit	1	132	13		17	141	79	145	827		2	15	125		
Parry Sound	3	64	3	6	6	52	58	33	425	10	62	240	730	23	50
Rama		15				10	15		500		30	71	1,000		25
Rice Lake		46	4	2		80	135	110	1,050	4	82	105	6,100		24
Sarnia	4	408	45	6	55	220	195	236	3,050	7	112	230	8,000	25	8
Saugeen	1	120	10		10	60	50	55	500		6	75	300	10	15
Sault Ste. Marie		138	7	6	18	79	36		1,150	31	88	139	2,400	170	43
Savanne		5		5	1	4	1			8	300	440	8,720	400	281
Scugog		4				4	2		100		10	12	1,000		5
Six Nations	10	940	280	32	540	1,250	980	1,700	39,400		26	210	396		4
Sturgeon Falls	7	66	9	14	14	60	70		840	33	180	325	1,800	140	155
Thessalon		46	7	2		28	27	39	494	33	99	118	930	228	68
Tyendinaga		310	15	45	30	600	250	400	6,000	7	30	55	1,500	15	3
Total	45	3,777	494	151	833	3,352	2,577	3,636	65,849	345	2,434	4,224	55,613	2,848	1,592

TABLE No. 4: LIVE STOCK AND POULTRY: GENERAL EFFECTS—*Concluded*

Agencies	Horses			Cattle					Poultry	General Effects					
	Stallions	Geldings and Mares	Foals	Bulls	Steers and Work Oxen	Milch Cows	Young Stock	Other Stock		Motor and Sail Boats	Row Boats and Canoes	Rifles and Shot Guns	Steel Traps	Nets	Tents
PRINCE EDWARD ISLAND	.....	13	2	.....	.....	20	21	2	198	7	13	13	12	35	.....
QUEBEC															
Becancour	.....	2	.....	1	.....	8	5	2	20	.....	2	4	12	.....	.....
Bersimis	.....	7	.....	2	.....	12	6	.....	125	2	199	137	2,500	16	172
Cacouna	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	8	13	133	.....	.....
Caughnawaga	4	250	100	200	.....	1,200	300	800	8,000	5	50	200	150	6	6
Jeune Lorette	.....	6	.....	.....	.....	10	.....	.....	300	12	10	50	700	.....	6
Maniwaki	1	66	3	4	.....	61	46	45	399	.....	76	125	1,944	36	72
Maria	.....	4	1	2	8	17	15	40	110	.....	12	25	650	.....	2
Mingan	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	50	75	2,500	.....	50
Oka	2	90	15	5	.....	75	60	40	300	.....	35	40	60	.....	4
Pierreville	.....	10	5	6	.....	35	15	6	75	.....	15	25	75	.....	3
Pointe Bleue	3	65	17	8	15	139	56	130	800	1	200	500	8,500	200	250
Restigouche	.....	24	4	11	5	39	31	50	250	.....	24	39	200	.....	7
Seven Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	300	500	10,000	200	250
St. Regis	3	193	11	23	24	298	232	284	2,500	37	150	79	1,200	43	15
Timiskaming	.....	20	.....	1	.....	14	15	23	175	3	167	335	3,500	195	170
Total	13	737	156	263	52	1,908	781	1,420	13,054	78	1,298	2,147	32,124	696	1,007
SASKATCHEWAN															
Assiniboine	.....	249	21	4	.....	89	80	45	340	.....	.....	31	174	.....	33
Battleford	3	1,145	.....	2	115	328	308	230	900	.....	60	320	3,300	185	280
Carlton	1	631	.....	.....	144	525	542	74	904	.....	69	296	2,786	192	202
Crooked Lakes	.....	420	.....	5	33	242	175	60	590	.....	.....	143	116	22	192
Duck Lake	1	424	.....	1	76	293	311	52	970	.....	4	178	2,069	22	83
File Hills Agency	.....	124	8	7	14	72	97	.....	110	.....	.....	56	95	.....	34
File Hills Colony	1	168	13	4	14	73	134	.....	500	.....	.....	20	25	.....	10
Moose Mountain	1	114	3	2	19	62	88	.....	86	.....	.....	50	300	6	35
Moose Woods	1	94	.....	.....	19	67	102	.....	147	.....	4	15	114	.....	16
Onion Lake	1	640	.....	12	92	328	373	.....	1,450	.....	84	330	7,200	148	164
Pelly	.....	220	.....	8	50	117	94	.....	455	.....	.....	150	2,200	.....	111
Qu'Appelle	3	476	33	10	44	274	251	.....	380	.....	5	122	550	20	150
Touchwood	7	670	53	9	76	225	167	25	792	.....	.....	249	4,873	24	205
Total	19	5,375	131	64	696	2,695	2,722	486	7,624	.....	226	1,960	23,802	619	1,515
YUKON TERRITORY															
Yukon Agency	.....	1	.....	.....	.....	2	.....	.....	36	1	2	6	.....	3	2

RECAPITULATION

Provinces															
Alberta	86	13,316	1,278	109	752	2,274	2,456	1,297	1,253	.....	339	1,399	10,092	894	1,521
British Columbia	260	11,958	2,032	291	2,697	6,407	3,901	3,910	32,565	1,165	3,709	7,342	59,864	2,100	2,876
Manitoba	10	1,852	66	58	382	1,335	1,720	610	3,273	58	2,256	3,250	37,054	5,683	2,145
New Brunswick	.....	42	.....	1	.....	38	25	9	414	44	157	317	1,085	282	65
Nova Scotia	.....	55	4	4	13	106	77	44	857	11	94	277	1,383	24	38
Ontario	45	3,777	494	151	833	3,352	2,577	3,636	65,849	345	2,434	4,224	56,613	2,848	1,592
Prince Edward Island	.....	13	2	.....	.....	20	21	2	198	7	13	13	12	35	.....
Quebec	13	737	156	263	52	1,908	781	1,420	13,054	78	1,298	2,147	32,124	696	1,007
Saskatchewan	19	5,375	131	64	696	2,695	2,722	486	7,624	.....	226	1,960	23,802	619	1,515
Yukon Territory	.....	1	.....	.....	.....	2	.....	.....	36	1	2	6	.....	3	2
Total	433	37,126	4,163	941	5,425	18,137	14,280	11,414	125,123	1,709	10,528	20,935	222,029	13,184	10,761

TABLE No. 5: VALUE OF REAL AND PERSONAL PROPERTY AND PROGRESS DURING YEAR

Agencies	Total Value of Lands in Reserves	Value of Private Fencing	Value of Private Buildings	Value of Public Buildings Property of the Band	Value of Implements and Vehicles	Value of Live Stock and Poultry	Value of General Effects	Value of Household Effects	Total Value of Real and Personal Property	Progress During Year 1922		
										Value of New Land Improvements	Value of Buildings Erected	Total Increase in Value
	$	$	$	$	$	$	$	$	$	$	$	$
ALBERTA												
Blackfoot	2,300,000	20,000	283,000	13,000	110,472	90,630	7,860	25,000	2,849,962	6,250	104,500	110,750
Blood	7,081,720	20,000	55,000	37,000	95,000	180,000	20,000	17,000	7,505,720	2,000	5,000	7,000
Edmonton	1,183,483	14,930	59,525	11,175	29,850	28,950	5,900	8,950	1,342,763	1,655	700	2,355
Hobbema	917,040	26,668	26,950	.....	60,429	33,595	10,030	7,710	1,082,422	106	900	1,006
Lesser Slave Lake	2,393,302	11,274	50,600	.....	16,731	56,425	34,654	24,500	2,587,486	2,890	2,550	5,440
Peigan	977,535	4,687	35,537	22,970	43,315	82,215	14,469	10,595	1,191,323	.....	1,200	1,200
Saddle Lake	891,907	2,900	25,245	.....	19,775	35,195	4,530	7,035	986,587	124	.....	124
Sarcee	1,180,120	11,000	20,000	36,500	14,000	31,325	800	1,500	1,295,245	2,500	500	3,000
Stony	264,774	8,000	15,300	500	10,000	30,125	8,000	10,000	346,699	.....	.....	.....
Total	17,189,881	119,459	571,157	121,145	399,572	568,460	106,243	112,290	19,188,207	15,525	115,350	130,875
BRITISH COLUMBIA												
Babine	83,866	8,580	141,300	9,750	20,000	59,500	61,100	33,800	417,896	6,480	10,000	16,480
Bella Coola	352,600	2,650	110,000	11,000	14,100	17,400	113,000	46,000	666,750	2,000	5,400	7,400
Cowichan	1,762,700	116,300	175,200	7,500	58,850	49,350	50,250	60,200	2,280,350	2,400	2,750	5,150
Kamloops	*3,475,293	52,641	116,130	43,108	102,689	380,557	15,473	17,456	4,203,347	.....	.....	.....
Kootenay	471,980	11,860	19,560	117,700	21,810	62,580	7,650	6,780	719,920	310,053	.....	310,053
Kwawkewlth	271,134	1,530	126,215	1,200	39,000	595	53,800	69,500	562,974	.....	25,000	25,000
Lytton	967,508	19,270	73,380	23,430	30,324	75,145	10,785	20,375	1,220,217	7,050	4,380	11,430
New Westminster	771,583	16,095	69,000	19,500	18,385	33,945	25,840	26,075	980,423	.....	.....	.....
Okanagan	1,919,260	25,800	168,500	33,750	39,000	170,500	6,950	17,350	2,381,110	10,950	13,300	24,250
Queen Charlotte	70,000	1,000	45,000	1,600	27,000	5,000	34,000	20,000	203,600	1,700	3,500	5,200
Skeena River	1,066,321	14,850	298,560	98,090	3,700	5,970	166,000	48,500	1,701,991	.....	.....	.....
Stikine	2,075	40	20,238	.....	5,272	2,278	15,875	28,855	74,633	.....	.....	.....
Stuart Lake	256,390	12,390	85,500	24,400	11,810	36,145	20,720	23,820	471,175	2,365	4,000	6,365
Vancouver	1,087,545	2,360	66,150	40,800	2,250	7,000	24,235	25,000	1,255,340	.....	.....	.....
West Coast	114,000	3,635	107,500	.....	1,410	4,430	60,400	31,650	323,025	40	900	940
Williams Lake	829,910	162,645	42,250	7,000	28,750	82,675	8,800	12,700	1,174,730	113,584	.....	113,584
Total	13,502,165	451,646	1,664,483	438,828	424,350	993,070	674,878	488,061	18,637,481	456,622	69,230	525,852
MANITOBA												
Birtle	496,486	1,470	17,900	2,450	15,795	28,200	2,775	2,925	568,001	875	3,820	4,695
Clandeboye	294,285	4,920	143,200	7,300	6,670	24,470	11,100	21,850	513,795	525	26,050	26,575
Fisher River	811,000	13,375	52,440	11,800	15,575	31,570	12,700	22,350	970,810	260	425	685
Griswold	214,395	1,080	16,000	6,050	27,000	33,000	2,300	4,200	304,025	100	.....	100
Manitowapah	444,601	2,595	29,425	16,600	14,245	77,830	14,275	12,200	611,771	.....	750	750
Norway House	52,416	595	44,200	1,100	1,530	14,775	49,370	14,600	178,586	.....	500	500
Pas	266,050	4,180	37,600	10,600	5,450	22,445	68,600	20,500	435,425	.....	1,500	1,500
Portage la Prairie	354,040	3,470	9,900	10,300	19,750	19,840	1,650	4,050	423,000	285	800	1,085
Total	2,933,273	31,685	350,665	66,200	106,015	252,130	162,770	102,675	4,005,413	2,045	33,845	35,890

New Brunswick												
Northern Division	19,060	130	11,000	2,200	1,000	1,450	540	3,800	39,180	125	200	325
Northeastern Division	46,294	2,328	27,845	32,695	5,243	4,309	6,500	16,490	141,704	125	190	315
Southwestern Division	6,900	205	9,125	1,600	400	695	1,242	1,625	21,792	.....	.....	.....
Total	72,254	2,663	47,970	36,495	6,643	6,454	8,282	21,915	202,676	250	390	640
Nova Scotia												
Annapolis	1,100	22	1,500	.....	100	75	250	175	3,222	50	300	350
Antigonish and Guysboro'	7,000	925	2,150	3,000	375	600	300	600	14,950	.....	250	250
Cape Breton (Eskasoni)	13,009	605	9,000	.....	2,000	1,900	1,500	500	28,514	200	50	250
Cape Breton (Sydney)	8,500	.....	5,000	.....	.....	.....	1,500	1,250	16,250	.....	.....	.....
Colchester	3,000	200	5,400	1,000	500	400	400	500	11,400	.....	400	400
Cumberland	1,100	20	1,075	.....	140	200	215	235	2,985	.....	.....	.....
Digby	1,800	60	2,000	1,600	50	70	300	6,580	12,460	.....	.....	.....
Halifax	1,900	995	5,100	.....	350	1,600	1,630	2,625	14,200	.....	.....	.....
Hants	10,500	.....	2,000	.....	200	400	200	1,000	14,300	.....	.....	.....
Inverness	9,725	1,100	16,400	4,700	575	2,550	750	860	36,660	50	2,050	2,100
Kings	4,500	200	1,500	.....	200	500	700	600	8,200	.....	75	75
Lunenburg	3,450	325	3,550	800	148	715	700	1,500	11,188	.....	.....	.....
Pictou	1,500	50	10,150	3,450	100	65	1,500	1,875	18,690	.....	.....	.....
Queens	1,000	700	3,000	12,000	1,000	1,500	1,500	1,000	21,700	.....	.....	.....
Richmond	7,000	250	3,850	12,000	1,000	2,250	1,000	800	28,150	.....	.....	.....
Shelburne	.....	.....	1,000	.....	40	75	450	350	1,915	.....	.....	.....
Victoria	6,500	100	2,000	2,240	500	900	750	500	13,490	25	65	90
Yarmouth	500	.....	300	.....	.....	.....	.....	150	950	.....	.....	.....
Total	82,084	5,552	74,975	40,790	7,278	13,800	13,645	21,100	259,224	325	3,190	3,515
Ontario												
Alnwick	75,000	5,000	31,725	7,000	5,635	8,145	2,650	12,225	147,380	.....	.....	.....
Cape Croker	150,000	7,750	65,000	35,250	15,000	30,000	10,000	10,000	323,000	7,500	2,500	10,000
Caradoc	149,650	14,700	104,400	.....	25,675	28,075	1,315	31,625	355,440	650	3,400	4,050
Chapleau	18,400	350	30,000	800	.....	200	5,000	.....	54,750	.....	30,000	30,000
Christian Island	35,000	1,200	8,000	7,000	2,800	6,500	2,500	2,500	65,500	250	.....	250
Fort Frances	221,557	1,200	24,000	8,300	15,915	7,740	6,980	8,400	294,092	4,000	114,500	118,500
Fort William	182,000	600	27,000	3,000	1,900	5,500	7,000	8,000	235,000	.....	.....	.....
Georgina Island	32,150	500	6,500	1,300	1,530	1,990	1,110	1,700	46,780	.....	.....	.....
Golden Lake	3,000	700	4,000	3,100	900	2,000	3,000	3,000	19,700	.....	.....	.....
Gore Bay	80,000	15,020	30,000	22,700	10,200	16,500	7,300	17,100	198,820	.....	285	285
Kenora	123,184	903	42,640	125	5,033	6,870	29,105	20,500	228,360	.....	.....	.....
Manitowaning	247,000	21,360	68,875	33,135	47,190	46,115	20,600	45,060	529,335	630	450	1,080
Moravian	95,300	5,895	32,000	7,500	10,567	14,321	1,248	2,195	169,026	131	.....	131
New Credit	230,000	11,550	49,000	8,500	11,900	19,850	900	14,000	345,700	255	768	1,023
Parry Sound	122,000	950	20,900	17,300	3,980	13,500	7,621	16,000	202,251	.....	130	130
Rama	50,000	4,100	23,400	13,200	2,500	2,200	2,000	7,250	104,650	.....	3,000	3,000
Rice Lake	115,000	4,000	45,000	11,500	7,500	19,980	7,650	11,000	221,630	.....	.....	.....
Sarnia	640,250	15,000	87,300	33,500	26,300	27,300	6,300	30,000	865,950	180	1,800	1,980
Saugeen	80,000	1,600	17,000	27,000	4,500	18,000	2,500	4,500	155,100	100	500	600
Sault Ste. Marie	54,900	2,625	27,000	25,250	6,900	14,750	9,750	13,275	154,450	200	.....	200
Savanne	101,885	278	9,075	25	3,195	650	33,900	19,050	168,058	.....	.....	.....
Scugog	68,000	1,500	3,000	500	400	950	300	1,000	75,650	802	.....	802
Six Nations	1,092,400	436,960	670,890	59,850	296,000	296,430	4,600	74,000	2,931,130	.....	9,890	9,890
Sturgeon Falls	242,190	2,350	47,000	11,500	5,300	17,600	21,000	42,000	388,940	.....	3,000	3,000
Thessalon	129,064	9,705	14,500	10,000	3,320	10,000	12,433	8,363	197,385	1,460	.....	1,460
Tyendinaga	645,300	134,825	100,000	44,800	42,800	80,000	2,645	55,800	1,106,170	.....	3,000	3,000
Total	4,983,230	700,621	1,588,205	392,135	556,940	695,166	209,407	458,543	9,584,247	16,158	173,223	189,381

*New estimate of value of timber.

TABLE No. 5.—VALUE OF REAL AND PERSONAL PROPERTY AND PROGRESS DURING YEAR—*Concluded*

Agencies	Total Value of Lands in Reserves	Value of Private Fencing	Value of Private Buildings	Value of Public Buildings Property of the Band	Value of Implements and Vehicles	Value of Live Stock and Poultry	Value of General Effects	Value of Household Effects	Total Value of Real and Personal Property	Progress During Year 1922		
										Value of New Land Improvements	Value of Buildings Erected	Total Increase in Value
	$	$	$	$	$	$	$	$	$	$	$	$
PRINCE EDWARD ISLAND	20,000	1,800	10,000	10,000	1,200	3,500	3,250	3,500	53,250	85	175	260
QUEBEC												
Becancour	3,500	125	2,200	.....	230	565	60	110	6,790	.....	.....	.....
Bersimis	51,000	750	43,200	3,900	700	2,000	9,300	13,500	124,350	450	8,700	9,150
Cacouna	6,000	.....	3,575	.....	325	260	.....	1,265	11,425	.....	.....	.....
Caughnawaga	740,000	9,250	450,000	70,500	30,000	70,500	22,000	100,000	1,492,250	500	25,000	25,500
Jeune Lorette	28,000	500	45,000	26,000	3,000	1,200	1,200	15,000	119,900	.....	1,000	1,000
Maniwaki	34,195	4,345	19,635	2,095	10,098	12,160	6,625	12,865	102,018	375	150	525
Maria	24,000	600	2,500	3,500	1,200	1,000	600	2,000	35,400	200	125	325
Mingan	.....	.....	3,500	2,000	.....	.....	7,000	4,000	16,500	.....	.....	.....
Oka	.....	4,000	40,000	3,500	10,000	20,000	.....	5,000	82,500	700	200	900
Pierreville	32,000	1,200	60,000	2,500	1,000	3,500	2,000	15,000	117,200	500	300	800
Pointe Bleue	38,000	5,900	33,000	6,000	8,000	12,000	15,000	13,000	130,900	.....	2,000	2,000
Restigouche	173,000	12,100	51,000	.....	15,000	11,000	18,000	17,000	297,100	.....	.....	.....
Seven Islands	500	.....	8,100	3,500	.....	.....	6,000	12,000	30,100	.....	7,100	7,100
St. Regis	240,000	1,600	95,000	15,000	12,000	34,000	4,500	26,000	428,100	.....	5,000	5,000
Timiskaming	35,000	800	7,500	1,750	2,500	5,750	8,000	3,500	64,800	2,000	500	2,500
Total	1,405,195	41,170	864,210	140,245	94,053	173,935	100,285	240,240	3,059,333	4,725	50,075	54,800
SASKATCHEWAN												
Asisniboine	425,764	5,945	20,323	4,170	22,108	52,325	749	8,175	539,559	875	1,940	2,815
Battleford	1,626,968	12,900	26,950	175	45,850	93,600	12,550	16,150	1,835,143	2,100	1,475	3,575
Carlton	1,545,224	12,646	66,940	31,900	30,056	65,985	10,605	15,446	1,778,802	1,660	1,210	2,870
Crooked Lakes	1,086,662	34,200	59,020	.....	61,920	66,300	3,800	12,500	1,324,402	2,935	1,100	4,035
Duck Lake	1,769,815	20,268	35,450	17,900	34,550	78,880	6,100	22,300	1,985,263	795	.....	795
File Hills Agency	607,470	6,100	11,700	2,100	7,900	16,900	1,300	5,000	658,470	174	.....	174
File Hills Colony	376,800	600	55,000	6,000	21,000	28,000	600	8,000	496,000	800	500	1,300
Moose Mountain	250,800	2,500	9,500	1,000	9,500	30,000	2,000	2,000	307,300	100	300	400
Moose Woods	62,495	6,996	5,850	2,500	6,000	18,500	600	2,500	105,441	.....	2,500	2,500
Onion Lake	2,191,740	10,300	49,335	3,900	23,250	75,520	10,380	15,200	2,379,625	864	400	1,264
Pelly	669,824	4,100	27,850	3,500	22,300	26,465	5,500	13,650	773,189	.....	400	400
Qu'Appelle	949,730	13,160	37,600	10,900	48,245	26,840	4,505	14,500	1,105,480	1,664	7,180	8,844
Touchwood	1,190,255	19,985	28,060	1,650	56,818	88,900	20,500	23,400	1,429,568	2,150	1,700	3,850
Total	12,753,547	149,700	433,578	85,695	389,497	668,215	79,189	158,821	14,718,242	14,117	18,705	32,822

RECAPITULATION

Provinces												
Alberta	17,189,881	119,459	571,157	121,145	399,572	568,460	106,243	112,290	19,188,207	15,525	115,350	130,875
British Columbia	13,502,165	451,646	1,664,483	438,828	424,350	993,070	674,878	488,061	18,637,481	456,622	69,230	525,852
Manitoba	2,933,273	31,685	350,665	66,200	106,015	252,130	162,770	102,675	4,005,413	2,045	33,845	35,890
New Brunswick	72,254	2,663	47,970	36,495	6,643	6,454	8,282	21,915	202,676	250	390	640
Nova Scotia	82,084	5,552	74,975	40,790	7,278	13,800	13,645	21,100	259,224	325	3,190	3,515
Ontario	4,983,230	700,621	1,588,205	392,135	556,940	695,166	209,407	458,543	9,584,247	16,158	173,223	189,381
Prince Edward Island	20,000	1,800	10,000	10,000	1,200	3,500	3,250	3,500	53,250	85	175	260
Quebec	1,405,195	41,170	864,210	140,245	94,053	173,935	100,285	240,240	3,059,333	4,725	50,075	54,800
Saskatchewan	12,753,547	149,700	433,578	85,695	389,497	668,215	79,189	158,821	14,718,242	14,117	18,705	32,822
Total	52,941,629	1,504,296	5,605,243	1,331,533	1,985,548	3,374,730	1,357,949	1,607,145	69,708,073	509,852	464,183	974,035

TABLE No. 6: SOURCES AND VALUE OF INCOME

Agencies	Value of Farm Products, including Hay	Value of Beef sold also of that used for Food	Wages Earned	Received from Land Rentals	Received from Timber	Earned by Fishing	Earned by Hunting and Trapping	Earned by other Industries and Occupations	Annuities paid and Interest on Indian Trust Funds	Total Income of Indians
	$	$	$	$ cts.	$ cts.	$	$	$	$ cts.	$ cts.
ALBERTA										
Blackfoot	74,799	7,578	4,500	42,248 52	.....	.....	312	15,160	59,746 95	204,344 47
Blood	108,300	10,660	25,000	8,107 00	.....	.....	2,000	15,000	7,003 48	176,070 48
Edmonton	36,589	6,851	3,300	1,000 00	4,375 35	300	700	4,320	26,456 03	83,891 38
Hobbema	13,307	1,239	1,004	4,542 25	.....	2,202	427	9,574	14,216 22	46,511 47
Lesser Slave Lake	27,826	1,420	36,420	.....	.....	7,750	329,450	.....	14,060 00	416,926 00
Peigan	18,920	9,610	7,000	950 00	.....	.....	704	.....	6,730 53	43,914 53
Saddle Lake	26,973	7,550	10,125	.....	.....	1,705	6,200	5,200	4,205 66	61,958 66
Sarcee	6,767	1,896	3,040	.....	.....	.....	1,000	4,281	775 00	17,759 00
Stony	580	2,814	26,353	250 00	.....	.....	6,838	8,445	4,060 57	49,340 57
Total	314,061	49,618	116,742	57,097 77	4,375 35	11,957	347,631	61,980	137,254 44	1,100,716 56
BRITISH COLUMBIA										
Babine	34,220	5,350	47,800	60 00	.....	20,000	96,000	20,900	169 87	224,499 87
Bella Coola	4,800	1,700	11,600	.....	.....	71,000	23,500	74,000	221 33	186,821 33
Cowichan	47,250	3,375	95,500	1,114 50	5,750 00	31,250	1,700	7,600	4,222 65	197,762 15
Kamloops	241,452	5,565	19,260	5,211 00	6,376 47	.....	3,650	.....	1,974 97	283,489 44
Kootenay	35,855	9,500	27,600	50 00	2,757 11	910	3,925	3,230	52 64	83,879 75
Kwawkewlth	250	.....	22,650	1,324 57	14,736 94	60,200	5,700	50,600	1,347 91	156,809 42
Lytton	49,160	12,110	97,900	12 00	1,171 45	.....	6,330	11,250	995 84	178,929 29
New Westminster	25,159	6,355	42,200	9,230 61	18,347 21	8,450	7,650	2,000	1,717 26	121,109 08
Okanagan	96,500	5,500	23,500	2,638 00	.....	130	1,775	1,675	695 01	132,413 01
Queen Charlotte	9,000	1,700	27,000	.....	.....	20,000	900	7,000	102 16	65,702 16
Skeena River	40,790	500	72,100	.....	.....	115,490	111,990	37,500	3,825 19	382,195 19
Stikine	3,340	.....	22,238	.....	.....	17,041	130,302	11,487	.....	184,408 00
Stuart Lake	30,148	7,245	22,615	.....	.....	16,530	35,730	5,205	2,221 30	119,694 30
Vancouver	3,500	100	30,500	1,633 02	25,871 63	29,000	7,600	24,800	9,004 37	132,009 02
West Coast	223	15	.....	37 00	6 40	99,800	955	4,335	89 22	105,460 62
Williams Lake	56,255	4,810	50,380	.....	.....	.....	27,350	9,900	35 95	148,730 95
Total	677,902	63,825	612,843	21,310 70	75,017 21	489,801	465,057	271,482	26,675 67	2,703,913 58
MANITOBA										
Birtle	23,355	515	5,157	641 20	.....	265	2,466	3,820	4,198 73	40,417 93
Clandeboye	14,525	2,435	21,900	1,190 00	71 20	11,780	25,000	6,650	12,578 86	96,130 06
Fisher River	33,107	1,600	27,400	100 00	.....	11,000	5,000	8,450	9,634 76	96,291 76
Griswold	21,000	250	6,500	.....	.....	400	2,800	1,860	2 87	32,812 87
Manitowapah	27,412	1,525	14,400	.....	.....	7,050	4,650	6,100	9,783 75	70,920 75
Norway House	3,920	300	20,500	.....	.....	18,000	185,000	14,700	12,805 00	255,225 00
Pas	11,400	1,470	29,500	70 00	14 37	9,000	122,000	.....	14,449 20	187,903 57
Portage la Prairie	31,255	100	5,000	2,282 20	.....	.....	1,300	1,800	8,947 61	50,684 81
Total	165,974	8,195	130,357	4,283 40	85 57	57,495	348,216	43,380	72,400 78	830,386 75

New Brunswick										
Northern Division	2,100	.....	2,700	.....	44 80	200	2,160	.....	1,499 50	8,704 30
Northeastern Division	5,959	205	8,800	200 00	311 63	4,425	465	2,250	565 05	23,180 68
Southwestern Division	1,100	.....	13,000	.....	250 00	150	1,200	2,575	44 84	18,319 84
Total	9,159	205	24,500	200 00	606 43	4,775	3,825	4,825	2,109 39	50,204 82
Northwest Territories										
Fort Simpson	.....	.....	.....	.....	593 78	.....	.....	.....	.....	.....
Nova Scotia										
Annapolis	250	.....	151	.....	.....	.....	160	700	.....	1,261 00
Antigonish and Guysboro'	925	100	2,550	.....	0 90	525	400	3,100	59 38	7,660 28
Cape Breton (Eskasoni)	2,500	400	900	.....	.....	200	300	1,500	.....	5,800 00
Cape Breton (Sydney)	.....	.....	15,000	.....	.....	.....	.....	.....	20 98	15,020 98
Colchester	315	.....	4,000	.....	.....	.....	300	5,000	.....	9,615 00
Cumberland	230	.....	2,350	.....	.....	.....	150	1,450	86 91	4,266 91
Digby	400	.....	3,000	.....	.....	3,000	500	1,000	.....	7,900 00
Halifax	2,000	2,100	12,000	.....	.....	100	.....	7,850	618 06	24,668 06
Hants	1,000	.....	200	.....	.....	200	2,000	400	58 40	3,858 40
Inverness	1,760	218	2,000	.....	.....	1,500	600	1,300	.....	7,378 00
Kings	500	100	3,500	.....	.....	100	600	500	.....	5,300 00
Lunenburg	1,010	115	2,000	.....	.....	350	350	2,060	2 35	5,887 35
Pictou	630	.....	2,000	.....	.....	1,500	500	3,100	.....	7,730 00
Queens	1,000	100	1,000	.....	.....	200	100	500	188 50	3,088 50
Richmond	1,570	54	390	.....	.....	150	15	30	.....	2,209 00
Shelburne	100	.....	1,000	.....	.....	200	300	500	.....	2,100 00
Victoria	2,580	200	7,900	.....	.....	400	300	2,750	23 00	14,153 00
Yarmouth	.....	.....	200	.....	.....	.....	.....	100	.....	300 00
Total	16,770	3,387	60,141	.....	0 90	8,425	6,575	31,840	1,057 58	128,196 48
Ontario										
Alnwick	6,900	210	7,700	2,063 75	.....	.....	2,600	990	7,543 56	28,007 31
Cape Croker	10,450	2,000	6,000	75 00	.....	10,000	300	2,500	22,006 33	53,331 33
Caradoc	43,875	3,255	71,005	4,190 63	6 50	275	2,200	3,200	2,503 56	131,510 69
Chapleau	1,600	.....	5,000	.....	.....	500	30,000	.....	12,668 00	49,768 00
Christian Island	5,600	150	3,500	.....	.....	150	400	1,500	8,307 43	19,607 43
Fort Frances	8,675	100	34,000	360 00	15,414 90	41,300	45,000	4,000	8,729 39	157,579 29
Fort William	1,600	1,500	38,000	.....	.....	9,000	45,000	.....	10,497 96	105,597 96
Georgina Island	1,200	600	6,000	126 00	.....	200	150	1,000	1,649 45	10,925 45
Golden Lake	700	.....	3,000	99 00	.....	.....	3,000	.....	10 10	6,809 10
Gore Bay	10,840	590	23,600	.....	501 86	350	550	.....	9,867 67	46,299 53
Kenora	6,010	70	49,500	10 00	10,770 06	42,000	56,000	43,000	16,100 78	223,460 84
Manitowaning	29,769	16,140	115,710	.....	2,541 79	6,350	12,750	17,290	22,270 53	222,821 32
Moravian	10,594	568	14,955	10 00	.....	250	247	499	6,020 64	33,143 64
New Credit	19,460	3,450	29,500	3,032 50	.....	.....	450	900	5,150 44	61,942 94
Parry Sound	7,450	1,375	36,000	390 00	38,648 97	.....	1,125	.....	12,245 57	97,234 54
Rama	3,500	.....	12,500	20 00	.....	2,000	3,000	5,000	3,396 79	29,416 79
Rice Lake	13,564	4,600	17,500	220 00	.....	1,500	10,500	8,700	2,976 69	59,560 69
Sarnia	29,115	2,725	42,350	1,351 50	10 10	900	700	8,400	13,686 73	99,238 33
Saugeen	8,000	1,000	19,000	.....	.....	1,000	1,500	3,500	16,949 06	50,949 06
Sault Ste. Marie	14,500	2,900	180,000	375 00	308 06	13,500	18,000	10,000	14,059 01	253,642 07
Savanne	2,330	.....	41,000	.....	.....	43,500	79,000	17,500	5,815 00	189,145 00
Scugog	400	100	900	802 00	.....	70	800	900	690 89	4,662 89
Six Nations	410,700	.....	160,000	1,980 00	.....	.....	.....	41,320	40,510 07	654,510 07
Sturgeon Falls	10,300	1,200	36,000	.....	.....	2,300	112,000	9,000	59,686 00	230,486 00
Thessalon	9,200	.....	24,000	.....	19 55	1,500	22,100	1,800	6,702 43	65,321 98
Tyendinaga	90,000	4,000	40,000	7,603 54	.....	2,500	500	1,000	5,887 38	151,490 92
Total	756,332	46,533	1,016,720	22,708 92	68,221 79	179,145	447,872	181,999	316,931 46	3,036,463 17

TABLE No. 6: SOURCES AND VALUE OF INCOME—*Concluded*

Agencies	Value of Farm Products, including Hay	Value of Beef sold also of that used for Food	Wages Earned	Received from Land Rentals	Received from Timber	Earned by Fishing	Earned by Hunting and Trapping	Earned by other Industries and Occupations	Annuities paid and Interest on Indian Trust Funds	Total Income of Indians
	$	$	$	$ cts.	$ cts.	$	$	$	$ cts.	$ cts.
PRINCE EDWARD ISLAND	2,500	350	1,250	.....	.....	1,450	75	7,000	.....	12,625 00
QUEBEC										
Becancour	180	150	300	.....	.....	25	15	.....	386 58	1,056 58
Bersimis	1,350	355	4,975	500 00	20,293 00	.....	99,000	3,450	6,492 46	136,415 46
Cacouna	.....	.....	2,400	.....	.....	20	350	1,500	456 34	4,726 34
Caughnawaga	14,400	2,000	225,000	7,717 14	.....	.....	.....	20,000	788 76	269,905 90
Jeune Lorette	.....	.....	30,000	.....	.....	.....	3,000	20,000	915 25	53,915 25
Maniwaki	8,406	139	33,962	272 00	3,134 91	100	33,345	1,789	3,010 46	84,158 37
Maria	1,200	100	2,000	.....	.....	300	400	800	.....	4,800 00
Mingan	.....	.....	.....	.....	.....	.....	8,000	.....	.....	8,000 00
Oka	8,000	2,000	20,000	.....	.....	100	100	600	408 39	31,208 39
Pierreville	1,000	1,500	2,000	175 00	.....	.....	600	2,500	285 56	8,060 56
Pointe Bleue	19,000	3,000	15,000	.....	1,587 50	1,200	45,000	3,500	547 22	88,834 72
Restigouche	14,500	800	5,700	210 00	1,083 42	100	1,000	3,500	158 09	27,051 51
Seven Islands	.....	.....	1,000	.....	.....	.....	15,000	16,000	.....	32,000 00
St. Regis	65,000	14,600	112,000	637 37	.....	4,000	4,100	22,000	3,127 05	225,464 42
Timiskaming	6,466	375	10,000	.....	2,285 80	300	23,000	850	2,164 82	45,441 62
Total	139,502	25,019	464,337	9,511 51	28,384 63	6,145	232,910	96,489	18,740 98	1,021,039 12
SASKATCHEWAN										
Assiniboine	25,608	13,098	1,022	.....	.....	.....	80	11,304	1,849 21	52,961 21
Battleford	53,771	4,980	19,380	2,138 40	.....	8,500	15,450	4,050	10,340 48	118,609 88
Carlton	33,851	6,186	8,664	.....	50 00	1,091	42,060	11,349	16,073 99	119,324 99
Crooked Lakes	34,250	2,810	4,650	292 53	.....	1,000	1,415	400	31,150 34	75,967 87
Duck Lake	51,800	7,800	11,200	.....	.....	800	25,000	11,700	8,403 21	116,703 21
File Hills Agency	8,900	1,750	600	.....	.....	.....	1,200	4,300	1,765 00	18,515 00
File Hills Colony	33,000	3,700	3,000	.....	.....	.....	200	3,000	.....	42,900 00
Isle a la Crosse	.....	.....	.....	.....	.....	.....	.....	.....	11,185 00	11,185 00
Moose Mountain	16,919	1,000	1,100	.....	.....	500	1,600	4,000	3,133 97	28,252 97
Moose Woods	5,500	1,800	2,500	.....	.....	100	1,250	2,000	.....	13,150 00
Onion Lake	52,027	10,700	18,000	.....	.....	12,500	92,500	8,500	5,210 75	199,437 75
Pelly	34,500	1,300	12,500	4,005 45	250 00	.....	7,500	3,650	12,190 60	75,896 05
Qu'Appelle	47,316	2,930	6,720	273 00	.....	600	660	5,200	25,171 92	88,870 92
Touchwood	29,953	1,600	12,600	310 00	.....	2,450	17,500	16,350	13,671 94	94,434 94
Total	427,395	59,654	101,936	7,019 38	300 00	27,541	206,415	85,803	140,146 41	1,056,209 79

RECAPITULATION

Provinces										
Alberta	314,061	49,618	116,742	57,097 77	4,375 35	11,957	347,631	61,980	137,254 44	1,100,716 56
British Columbia	677,902	63,825	612,843	21,310 70	75,017 21	489,801	465,057	271,482	26,675 67	2,703,913 58
Manitoba	165,974	8,195	130,357	4,283 40	85 57	57,495	348,216	43,380	72,400 78	830,386 75
New Brunswick	9,159	205	24,500	200 00	606 43	4,775	3,825	4,825	2,109 39	50,204 82
Northwest Territories	.....	.....	.....	.....	593 78	.....	.....	.....	.....	593 78
Nova Scotia	16,770	3,387	60,141	.....	0 90	8,425	6,575	31,840	1,057 58	128,196 48
Ontario	756,332	46,533	1,016,720	22,708 92	68,221 79	179,145	447,872	181,999	316,931 46	3,036,463 17
Prince Edward Island	2,500	350	1,250	.....	.....	1,450	75	7,000	.....	12,625 00
Quebec	139,502	25,019	464,337	9,511 51	28,384 63	6,145	232,910	96,489	18,740 98	1,021,039 12
Saskatchewan	427,395	59,654	101,936	7,019 38	300 00	27,541	206,415	85,803	140,146 41	1,056,209 79
Total	2,509,595	256,786	2,528,826	122,131 68	177,585 66	786,734	2,058,576	784,798	715,316 71	9,940,349 05

SCHOOL STATEMENT

STATEMENT of Indian Schools in the Dominion for the Fiscal Year ended March 31, 1923.

NOTE.—The "Standard" indicates the classification of the pupils according to the reading-book used and therefore shows the degree of general advancement in all the studies prescribed by the curriculum, thus:—

Standard I.....First Reader, Part I.
Standard II.....First Reader, Part II.
Standard III.....Second Reader.....
Standard IV.....Third Reader.
Standard V.....Fourth Reader.
Standard VI.....Fifth Reader.

School	Reserve	Agency	Teacher	Denomination	Number on Roll			Average Attendance	Standard					
					Boys	Girls	Total		I	II	III	IV	V	VI
NOVA SCOTIA														
Afton	Afton	Antigonish County	Wm. J. Rogers	Roman Catholic	12	9	21	14	8	9	2	.....	1	1
Eskasoni	Eskasoni	Cape Breton "	Miss Bessie Fraser	"	20	18	38	13	33	2	2	1	.....	.....
Sydney	Sydney	" "	Miss Catherine Gallagher	"	14	11	25	13	17	1	2	5	.....	.....
Millbrook	Millbrook	Colchester "	Miss Alma Sheridan	"	12	17	29	16	8	8	5	1	4	3
Bear River	Bear River	Digby "	Mrs. Rose L. Ford	"	14	6	20	12	14	2	3	.....	1	.....
Shubenacadie	Indian Brook	Hants "	Mrs. Andrew King	"	10	6	16	7	6	2	6	1	.....	1
Whycocomagh	Whycocomagh	Inverness "	Alexander MacDonald	"	18	22	40	21	24	6	5	2	3	.....
New Germany	Lunenburg	Lunenburg "	Mrs. E. B. Penny	"	4	4	8	6	5	1	.....	1	.....	1
Indian Cove	Fishers' Cove	Pictou "	Miss Gertrude McGirr	"	11	10	21	11	8	6	3	2	2	.....
Salmon River	Salmon River	Richmond "	Geo. J. Coffey	"	14	26	40	15	27	6	5	2	.....	.....
Middle River	Middle River	Victoria "	Jno. A. MacRae	"	9	12	21	10	14	3	4	.....	.....	.....
Total, Nova Scotia					138	141	279	138	164	46	37	15	11	6
PRINCE EDWARD ISLAND														
Lennox Island	Lennox Island	P.E.I.Superintendency	John J. Sark	Roman Catholic	13	16	29	13	9	10	4	5	1	.....
Rocky Point	Rocky Point	" "	J. Henry Sepier	"	7	1	8	2	5	1	2	.....	.....	.....
Total, Prince Edward Island					20	17	37	15	14	11	6	5	1	.....
NEW BRUNSWICK														
Big Cove	Big Cove	Northeastern	Mrs. S. J. Savage	Roman Catholic	18	41	32	12	14	6	7	5	.....	.....
Burnt Church	Burnt Church	"	Miss Rebecca Isaacs	"	18	17	35	22	21	8	4	2	.....	.....
Eel Ground	Eel Ground	"	Miss Bertha Clair	"	18	15	33	21	21	7	5	.....	.....	.....
Eel River	Eel River	"	Miss Antoinette Blanchard	"	12	8	20	14	9	5	3	2	1	.....
Red Bank	Red Bank	"	Miss Mary Allen	"	9	9	18	8	3	3	6	3	3	.....
Kingsclear	Kingsclear	Southwestern	Miss Bridget Crain	"	5	10	15	11	3	.....	4	5	3	.....
Oromocto	Oromocto	"	Miss Kathleen Rowan	"	9	8	17	12	5	7	4	1	.....	.....
St. Mary's	St. Mary's	"	Miss Mary T. Hughes	"	8	17	25	17	6	6	6	4	3	.....
Woodstock	Woodstock	"	Miss Miriam G. Dunphy	"	9	5	14	7	3	3	2	2	3	1
Edmunsdton	At Edmundston	Northern	Miss Emilie M. Bernier	"	4	3	7	4	1	3	.....	3	.....	.....
Tobique	Tobique	"	Miss E. Cronkite	"	31	23	54	33	16	11	8	15	4	.....
Total, New Brunswick					141	129	270	161	102	59	49	42	17	1

QUEBEC															
Caughnawaga Boys	Caughnawaga	Caughnawaga	Sr. Mary Gabriel, prin. 1st teacher, Sr. Mary Rita 2nd Teacher, Sr. Mary Zita 3rd Teacher, Sr. Mary Rega 4th Teacher, Sr. Mary Suzanne 5th Teacher, Sr. Mary Angelina	Roman Catholic		222		222	183	65	10?	17	16	13	9
Caughnawaga Girls	Caughnawaga	Caughnawaga	Sr. Mary Gabriel, prin. 1st Teacher, Sr. Mary Arthemie 2nd teacher, Sr. Mary Gertrude 3rd Teacher, Sr. Mary Claire Anna 4th Teacher, Sr. Mary Veronica	Roman Catholic			176	176	144	64	22	38	23	16	13
Caughnawaga, Senior	Caughnawaga	Caughnawaga	Sr. Mary Louise Ida Sr. Mary Resurrection	"		11	15	26	22						26
Caughnawaga, Bush	"	"	Mrs. A. Beauvais	"		14	15	29	25	13	6	5	5		
Caughnawaga, St. Isidore	"	"	Miss Juliette Descoteaux	"		9	20	29	14	14	8	6		1	
Bersimis	Bersimis	Bersimis	Sr. St. Raphael, prin. Sr. St. Eugene, asst.	"		54	30	84	39	40	32	12			
Pointe Bleue	Pointe Bleue	Pointe Bleue	Sr. St. Vincent de Paul, prin Sr. Marie du Carmel, asst	"		54	50	104	65	60	19	11	10	4	
Restigouche	Restigouche	Restigouche	Sr. Mary of St. Joseph Sr. Mary de St. Luc Sr. St. Sigismond	"		53	62	115	71	26	32	19	16	22	
St. Frances (C.E.)	Pierreville	Pierreville	Henry L. Masta	Church of England		5	7	12	5	4	2	2		4	
St. Frances (R.C.)	"	"	Sr. Mary Josephine Sr. Mary of Mercy Sr. Mary Donatus	Roman Catholic		22	26	48	43	13	15	9	7	2	2
St. Regis Island	St. Regis	St. Regis	Miss Lydia Sloane	Undenominational		10	10	20	12	11		3	6		
St. Regis Village	"	"	Miss Gertrude Legarde Miss Ethel Sloane	"		38	33	71	38	31	27	5	1	7	
Chenail	"	"	Miss Grace McDonald	"		24	18	42	24	21	12	7	2		
Chetlain	"	"	Miss Angela Morris	"		15	5	20	12	10	4	4	2		
Cornwall Island	"	"	Miss Geneva Legarde	"		18	24	42	14	28	6	4	4		
Oka Country	Oka	Oka	Miss Hilda Oke	Methodist		10	16	26	11	18	1	4	2	1	
Oka Village	"	"	Miss Helen Earl	"		6	13	19	11	10	4	2	2		1
Congo Bridge	Maniwaki	Maniwaki	Miss Helen J. White	Undenominational		10	12	22	11	7	8	2	3	2	
Maniwaki	"	"	Miss Margaret McCaffrey	"		16	9	25	9	7	9	5	4		
Maria	Maria	Maria	Miss Dora Gideon	Roman Catholic		13	11	24	15	9	1	4	3	3	4
Lorette	Lorette	Lorette	Sr. St. Agnes of Jesus Sr. St. Reine	"		40	30	70	54	26	24	10	10		
Brennan's Lake	At Brennan's Lake	Temiskaming	Miss Mary Sauve	Roman Catholic		8	11	19	10	7	8	4			
Hunter's Point	At Hunter's Point	"	Miss Rosie Hanson	Undenominational		6	14	20	14	5	1	5	3	6	
Hunter's Point	" "	"	Miss Teresa McGuire	Roman Catholic		13	13	26	13	14		1	7	4	
*Long Point	At Long Point	"	Mrs. Alfred Ameese	"		16	17	33	23			20	9	4	
Temiskaming	Temiskaming	"	Miss Catherine Honan	"		24		24	48	24	21	17	3	6	1

*Summer School only.

SCHOOL STATEMENT

STATEMENT of Indian Day Schools in the Dominion for the Fiscal Year ended March 31, 1923—*Continued*

School	Reserve	Agency	Teacher	Denomination	Number on Roll			Average Attendance	Standard					
					Boys	Girls	Total		I	II	III	IV	V	VI
QUEBEC														
*Lake Simon	At Lake Simon	"	Miss Pansy McEvoy Miss Esther Foy	Roman Catholic	24	21	45	38	45					
*Waswanapi	At Waswanapi	"	Harry Cartlidge	Church of England	13	20	33	20	25	8				
Rupert's House	At Rupert's House	Treaty No. 9	Rev. C. C. Brett	"	34	40	74	17	74					
*Mistassini	Lake Mistassini	"	Charles Iserhoff	"	22	32	54	41	31	23				
Fort George	At Fort George	"	Rev. W. G. Walton	"	8	5	13	6	13					
Total, Quebec					812	779	1,591	1,028	712	391	202	141	89	56
ONTARIO														
Alnwick	Alnwick	Alnwick	Rev. F. J. Dodson	Methodist	30	23	53	33	17	12	12	8	4	
Cape Croker	Cape Croker	Cape Croker	Miss Mary Moffitt	Undenominational	22	15	37	26	16	4	4	8	5	
Port Elgin	"	"	Miss May Timmerman	"	11	13	24	9	17	4	2	1		
Sidney Bay	"	"	Miss Mabel Jones	"	4	5	9	5	1	3	1	2	2	
Bear Creek	Caradoc	Caradoc	Miss Lillibelle Graham	"	11	14	25	14	10	5	7	2	1	
Back Settlement	"	"	Lyman W. Fisher	"	8	12	20	11	9	6	1	4		
Muncey	"	"	Miss Mary McArthur	Church of England	16	15	31	14	12	4	8	7		
River Settlement	"	"	Miss Carrie Crowe	Undenominational	15	10	25	12	9	5	6	4	1	
Oneida No. 2	Oneida	"	Levi Doxtator	Church of England	36	25	61	27	29	11	15	4	2	
Oneida No. 3	"	"	Miss Freida Ryckman	Methodist	25	13	38	11	23	3	11	1		
Manitou Rapids	Manitou Rapids	Fort Frances	Mrs. A. Spencer	Church of England	12	11	23	5	10	10	3			
Sand Point	At Sand Point	Fort William	Mrs. A. McLaron	Roman Catholic	13	10	23	10	12	6	5			
Lake Helen	Red Rock	"	D. Ducharme	"	6	13	19	6	6	4	7	2		
Mission Bay	Fort William	"	Miss Kathleen Flanagan	"	13	12	25	17	13	4	7	1		
Mountain Village	"	"	Mrs. Celina McCoy	"	10	3	13	6	5	2	5	1		
Georgina Island	Georgina Island	Georgina Island	Rev. J. A. Ward	Methodist	14	10	24	16	13	3	4	3	1	
Golden Lake	Golden Lake	Golden Lake	Miss Josephine Currier	Undenominational	19	11	30	14	22	1	4	2	1	
Sheshegwaning	Sheshegwaning	Gore Bay	Miss Sadie J. Burke	Roman Catholic	9	13	22	18	10	5	5	2		
Sheshegwaning	"	"	Edwin Weeks	Church of England	5	8	13	10	2	4		3		4
West Bay	West Bay	"	Miss Elizabeth Leusch	Roman Catholic	22	28	50	18	37	3	4	3	3	
*Lac Seul	Lac Seul	Kenora	Rev. M. Sanderson	Church of England	19	15	34	10	33	1				
Buzwah	Buzwah	Manitowaning	Miss Clara M. King	Roman Catholic	12	9	21	13	9	6	6			
Kaboni	Kaboni	"	Miss Priscilla Lavallee	"	17	26	43	21	32	6	2	3		
Sheguiandah	Sheguiandah	"	G. H. L. Watts	Church of England	4	9	13	7	6	4	2	1		
South Bay	South Bay	"	William H. Lloyd	Roman Catholic	11	15	26	15	14	6	1	4	1	
Sucker Creek	Sucker Creek	"	J. Carl Richards	Church of England	7	8	15	11	1	5	7	2		
Whitefish Lake	Whitefish Lake	"	Miss M. A. McDermott	Roman Catholic	16	15	31	17	14	10	7			
Wikwemikong	Manitoulin Islands	Manitowaning	Miss Zoe St. James Miss Isabelle Peltier	Roman Catholic	44	40	84	51	45		9	11	12	7
Moraviantown	Moravian	Moravian	F. J. Joblin	Methodist	28	24	52	28	19	11	14	5	3	
New Credit	New Credit	New Credit	Miss Grace Martin	"	14	14	28	14	12	2	5	6	3	
Garden Village	Nipissing	Nipissing	Miss Clotilda Fitzpatrick	Undenominational	18	14	32	17	21	7	4			

*Dokis	Dokis	"	Mrs. Joseph Jalbert	"	13	9	22	16	16	3	3			
*Mattawa	At Mattawa	"	Sr. Anna Rita	Roman Catholic	25	28	53	45	27	6	9	6	4	1
*Temogami	Bear Island	"	Miss Mary G. Honan	Undenominational	12	19	31	19	24	3	4			
Lower French River	Lower French River	Parry Sound	Miss Louise B. Dale	"	5	10	15	10	9	3	3			
Gibson	Watha	"	Miss Mary A. Black	Methodist	14	15	29	8	18	6	3	2		
Henvey Inlet	Henvey Inlet	"	Miss Grace Hare	Undenominational	5	6	11	7	5	2	4			
Ryerson	Parry Sound	"	Miss Bertha McLarnon	"	26	12	38	21	22	8	4	2	2	
Shawanaga	Shawanaga	"	Mrs. Elizabeth English	"	14	23	37	19	16	2	10	8	1	
Christian Island	Christian Island	Christian Island	Lorenza Big Canoe	Methodist	17	17	34	21	21	7	6			
Moose Deer Point	At Moose Deer Pt.	"	Bert Sullivan	Undenominational	11	4	15	10	5	4	5	1		
Rama	Rama	Rama	Miss Wanda Bowman Mrs. Ida Corman	"	28	23	51	25	25	7	9	6	4	
Hiawatha	Rice Lake	Rice Lake	H. F. Maloney	"	5	14	19	13	4	3	8	4		
Mud Lake	Mud Lake	"	Miss Ethel A. Browne	"	27	18	45	17	26	5	6	8		
Kettle Point	Kettle Point	Sarnia	Mrs. Angus George	"	17	13	30	14	19	2	4	4	1	
St. Clair	Sarnia	"	Wm. E. Jones	"	22	25	47	25	27	2	16	2		
Stoney Point	Stoney Point	"	Miss Anges A. Weaver	"	8	3	11	5	4	3	3	1		
French Bay	Saugeen	Saugeen	T. J. Wallace	"	11	8	19	13	7	7	2	1	2	
Saugeen	"	"	Miss Isabella Ruxton	"	15	16	31	23	17	6	4		4	
Scotch Settlement	"	"	Mrs. B. Robb	"	15	11	26	17	14	4	3	4	1	
Batchawana	Batchawana Bay	Garden River	Miss Rose Chaput	Roman Catholic	10	3	13	6	9	2				
Garden River	Garden River	"	Miss Mildred Toner Miss Ada Bush	"	35	30	65	29	30	6	16	5	5	3
Garden River	"	"	F. W. R. Belford	Church of England	13	6	19	9	10	1	4	1	2	1
Goulais Bay	Goulais Bay	"	Miss Angela Toner	Roman Catholic	16	19	35	15	22	9	2	1	1	
Six Nations, No. 1	Six Nations	Six Nations	Miss Mary H. Jamieson	Undenominational	23	23	46	23	9	7	6	15	9	
" No. 2	"	"	Miss Nora E. Jamieson Miss Eva C. Johnston	"	42	56	98	55	7	30	17	18	26	
" No. 3	"	"	Daniel Green	"	33	22	55	31	23	3	12	4	13	
" No. 4	"	"	Miss Julia L. Jamieson	"	13	9	22	8	3	7	8	4		
" No. 5	"	"	Miss Edith L. King	"	21	13	34	21	15	2	8	5	4	
" No. 6	"	"	Miss Nettie Green	"	20	10	30	12	13	1	6	10		
" No. 7	"	"	Norman R. Smith	"	24	27	51	25	14	8	12	10	7	
" No. 8	"	"	Miss Wilma G. Smith	"	23	24	47	29	14	5	9	9	10	
" No. 9	"	"	Grant Smith	"	11	16	27	18	11	1	9	4	1	1
" No. 10	"	"	S. A. Anderson	"	22	32	54	27	11	19	16	2	6	
" No. 11	"	"	Winton Loft	"	28	28	56	28	25	8	5	9	9	
Mississauga River	Mississauga	Thessalon	Miss Jean McDermott	"	12	15	27	12	23	4				
Serpent River	Serpent River	"	Miss Eva McAndrew	Roman Catholic	13	14	27	15	6	10	7	4		
Spanish Day	Spanish River	"	Rev. R. M. Fairbairn	Church of England	7	5	12	6	12					
Sagamook	"	"	Miss Lillian I. Addy	Roman Catholic	10	11	21	12	10	11				
*Abitibi	At Abitibi	Treaty No. 9	Miss Alice McBride	"	23	23	46	22	37	9				
*English River	At English River	"	Rev. P. A. Northam	Church of England	14	20	34	25	24	10				
Albany River	At Fort Albany	"	Rev. P. A. Northam	"	43	44	87	30	51	26	9	1		
Fort Hope	At Fort Hope	"	Rev. F. M. Reynolds	"	15	10	25	15	22	3				
Moose River (French Post)	At Moose River	"	Fred Marks	"	16	8	24	10	23		1			
Moose Fort	At Moose Fort	"	Rev. J. T. Griffin	"	29	26	55	32	42	5	6	2		
Tyendinaga (Eastern)	Tyendinaga	Tyendinaga	Miss Nora H. Stoddart	Undenominational	28	23	51	26	26	5	8	6	3	3
" (Western)	"	"	Miss Helen L. Lewis	"	8	14	22	10	12		8	2		
" (Central)	"	"	Mrs. Celia Fyle	"	24	9	33	19	15	1	8	5	4	
" (Mission)	"	"	Miss Margaret Whitton	"	22	7	29	17	8		14	5	2	
Walpole Island No. 1	Walpole Island	Walpole Island	Mrs. H. Macpherson Miss Marion McDougall	"	35	39	74	26	45	14	10	4	1	
Walpole Island No. 2	"	"	Harold D. Watts	"	20	24	44	19	16	10	12	5	1	
Total Ontario					1,434	1,337	2,771	1,446	1,373	457	489	269	163	20

*Summer school only.

SCHOOL STATEMENT

STATEMENT of Indian Day Schools in the Dominion for the Fiscal Year ended March 31, 1923—*Continued*

School	Reserve	Agency	Teacher	Denomination	Number on Roll			Average Attendance	Standard					
					Boys	Girls	Total		I	II	III	IV	V	VI
MANITOBA														
Black River	Black River	Clandeboye	Geo. Slater	Church of England	8	6	14	6	9	2	.....	3	.....	.....
Brokenhead	Brokenhead	"	Rev. Geo. C. Smith	"	9	8	17	6	14	2	1	.....	.....	.....
Bloodvein	Bloodvein	"	Wilfred Moore	Roman Catholic	7	10	17	10	10	4	3	.....	.....	.....
Fort Alexander (Upper)	Fort Alexander	"	Rev. C. H. Fryer	Church of England	17	8	25	9	14	7	4	.....	.....	.....
Hollowwater River	Hollowwater River	"	Leslie Garrett	"	18	22	40	21	17	17	3	3	.....	.....
Little Grand Rapids	Little Grand Rapids	"	W. J. Hope	Methodist	12	15	27	17	27	.....	.....	.....	.....	.....
St. Peter's North	" "	"	Peter Harper	Church of England	6	10	16	7	9	3	1	1	2	.....
Poplar River	Poplar River	"	William Lee	Methodist	17	10	27	7	21	5	1	.....	.....	.....
Grand Rapids	Grand Rapids	"	P. H. Gentleman	Church of England	13	11	24	16	22	2	.....	.....	.....	.....
Berens River	Berens River	"	C. D. Street	Methodist	21	8	29	15	7	3	10	9	.....	.....
Berens River	"	"	Miss Patricia Fuller	Roman Catholic	10	15	25	13	9	6	2	2	6	.....
Fisher River	Fisher River	Fisher River	W. G. Tong Mrs. W. G. Tong	Methodist	43	37	80	47	20	21	18	15	5	1
Peguis Centre	Peguis	"	Miss W. H. Stapleton	Church of England	17	11	28	11	10	10	3	5	.....	.....
Peguis North	"	"	Chas. R. Harbord	"	21	17	38	17	28	4	3	2	1	.....
Peguis South	"	"	A. H. Packer	"	23	11	34	12	14	10	4	4	2	.....
Oak River Sioux	Oak River	Griswold	Augustus Hyson	"	15	5	20	9	10	4	3	3	.....	.....
Ebb and Flow Lake	Ebb and Flow Lake	"	Miss Laura J. Davis	Roman Catholic	12	9	21	9	19	2	.....	.....	.....	.....
Fairford Improved	Fairford	Manitowapah	Miss Olive Thomas Miss Catherine McCabe	Church of England	22	22	44	22	33	10	1	.....	.....	.....
Lake Manitoba	Lake Manitoba	"	Maxime Goulet	Roman Catholic	12	8	20	7	7	8	5	.....	.....	.....
Lake St. Martin	Lake St. Martin	"	Arthur R. Gibson	Church of England	20	19	39	20	20	4	10	4	1	.....
Little Saskatchewan	Little Saskatchewan	"	John E. Favelle	"	23	15	38	15	32	.....	6	.....	.....	.....
Pine Creek	Pine Creek	"	Rev. J. Brachet, O.M.I.	Roman Catholic	8	8	16	8	9	4	3	.....	.....	.....
Shoal River	Shoal River	"	Rev. A. J. Warwick	Church of England	8	16	24	14	12	5	7	.....	.....	.....
York Factory	At York Factory	Norway House	John F. Lazenby	"	35	20	55	35	45	9	1	.....	.....	.....
Oxford House	At Oxford House	"	Miss Edith Atkinson	Methodist	16	24	40	16	21	14	4	1	.....	.....
Cross Lake	Cross Lake	"	Miss Isabel Stauffer	"	13	19	32	12	20	11	1	.....	.....	.....
Island Lake	Island Lake	"	Miss Dorinda Sturdy	"	13	9	22	8	22	.....	.....	.....	.....	.....
Jackhead	Jackhead	"	Joseph Everett	Church of England	13	15	28	24	27	.....	1	.....	.....	.....
Jack River	Norway House	"	Miss Letitia Wood	"	26	24	50	19	16	22	2	6	3	1
Nelson House	At Nelson House	"	Mrs. W. E. W. Hutty	Methodist	13	19	32	13	29	1	2	.....	.....	.....
Rossville	Norway House	"	Miss Mary Blackford	"	19	16	35	16	24	.....	6	.....	5	.....
God's Lake	God's Lake	"	J. A. C. Kell	"	7	5	12	4	12	.....	.....	.....	.....	.....
Big Eddy	Pas	Pas	Miss Mary Jane Cook	Church of England	12	10	22	12	15	6	1	.....	.....	1
Pine Bluff	"	"	Mrs. I. Gauthier	Roman Catholic	8	5	13	8	13	.....	.....	.....	.....	.....
Shoal Lake	"	"	Francis J. Daniels	Church of England	8	5	13	6	8	3	1	1	.....	.....
Split Lake	Split Lake	"	Rev. W. H. J. Walter	"	28	27	55	20	40	15	.....	.....	.....	.....
Chemawawin	Chemawawin	"	J. G. Kennedy	"	10	11	21	10	14	7	.....	.....	.....	.....
Red Earth	Red Earth	"	Isaiah Badger	"	17	11	28	15	20	5	2	1	.....	.....
Swan Lake	Swan Lake	Portage la Prairie	Rev. Jas. A. Donaghy	Presbyterian	14	9	23	12	17	2	4	.....	.....	.....
Birch River	Birch River	"	Mrs. R. J. Awdy	Church of England	6	8	14	7	14	.....	.....	.....	.....	.....
Total, Manitoba	.....	.....	.....	.....	620	538	1,158	555	730	228	113	60	25	2

Saskatchewan													
Assiniboine	Assiniboine	Assiniboine	Miss Pearl Freeman	Presbyterian	15	13	28	10	16	7	3	1	1	.....
Red Pheasant	Red Pheasant	Battleford	E. V. Bird	Church of England	16	8	24	14	18	2	3	1	.....	.....
Ahtakakoops	Ahtakakoops	Carlton	H. Hutchinson	"	14	13	27	8	11	9	5	2	.....	.....
Mistawasis	Mistawasis	"	Mrs. Kate Le Clair	"	7	11	18	6	14	2	1	1	.....	.....
Montreal Lake	Montreal Lake	"	John R. Settee	"	8	17	25	17	12	5	4	4	.....	.....
Sturgeon Lake	Wm. Twatts	"	Henry W. Shaw	"	13	14	27	11	19	3	3	.....	2	.....
James Smith	James Smith	Duck Lake	Ernest B. Goodman	"	9	9	18	10	6	6	5	1	.....	.....
John Smith	John Smith	"	J. L. Lowe	"	15	7	22	11	8	7	3	4	.....	.....
White Bear's	White Bear's	Moose Mountain	Rev. G. A. Hackney	Presbyterian	19	8	27	13	11	9	3	4	.....	.....
White Cap Sioux	Moose Woods	Moose Woods	Gordon Churchill Mrs Gordon Churchill	Methodist	8	8	16	10	13	2	1	.....	.....	.....
Cold Lake	Cold Lake	Onion Lake	Chas. Hebert Mrs. Chas Hebert	Roman Catholic	26	10	36	15	23	10	3	.....	.....	.....
Frog Lake	Frog Lake	"	Chas. Quinney	Church of England	12	10	22	8	16	3	1	2	.....	.....
Long Lake	Keehewin's	"	J. F. Dion Mrs. J. F. Dion	Roman Catholic	10	7	17	8	15	2	.....	.....	.....	.....
Cote's Improved	Cote's	Pelly	Mrs. S. Marshall	Presbyterian	23	15	38	20	19	4	3	9	1	2
Keys	Keys	"	Frank Bowley	Church of England	7	4	11	8	6	2	.....	3	.....	.....
Keeseekouse	Keeseekouse	"	Howard Rossington	Roman Catholic	12	5	17	7	12	4	.....	1	.....	.....
Day Star's	Day Star's	Touchwood Hills	Rev. Geo. Turner	Church of England	10	5	15	12	12	.....	3	.....	.....	.....
Fishing Lake	Fishing Lake	"	Rev. A. J. Lawes	"	15	10	25	15	18	4	3	.....	.....	.....
Total, Saskatchewan	.....	.....	.....	.....	239	174	413	203	249	81	44	33	4	2
Alberta														
Louis Bull	Louis Bull	Hobbema	Thos. E. Sinclair	Methodist	12	10	22	8	22	.....	.....	.....	.....	.....
Samson's	Samson's	"	Miss Miriam Sweet	"	11	21	32	11	20	7	5	.....	.....	.....
Goodfish Lake	Pakan	Saddle Lake	J. M. Murray	"	14	11	25	9	17	5	2	1	.....	.....
Saddle Lake	Saddle Lake	"	Gussie Steinhauer	"	13	9	22	9	17	.....	4	1	.....	.....
Sarcee	Sarcee	Sarcee	Miss Winnifred Tims	Church of England	13	15	28	19	10	8	1	7	1	1
Morley	Stony	Stony	Miss Madeline Bock Miss Mildred Herbert	Methodist	21	16	37	21	37	.....	.....	.....	.....	.....
Total, Alberta	.....	.....	.....	.....	84	82	166	77	123	20	12	9	1	1
British Columbia														
Fort Babine	Fort Babine	Babine	Joseph F. Morrissey	Roman Catholic	22	27	49	19	18	13	10	4	4	.....
Kitwanga	Kitwanga	"	Samuel Kinley	Church of England	25	19	44	9	18	12	7	4	3	.....
Glen Vowell	Sicedack	"	Miss Lily Bryenton	Salvation Army	14	11	25	10	11	9	2	3	.....	.....
Hazelton	Gitamakeh	"	Miss L. Shore	Church of England	14	20	34	11	10	5	5	8	4	2
Kitsegukla	Kitsegukla	"	Miss Margaret B. Wright	Methodist	18	15	33	13	23	5	4	1	.....	.....
Kispiox	Kispiox	"	Miss Lily Morrice	"	19	23	42	11	20	9	7	3	2	1
Roche Deboule	Roche Deboule	"	Sydney Browning	Roman Catholic	15	11	26	15	14	3	3	1	5	.....
Meanskinisht	At Meanskinisht	"	Mrs. Alice Tordiffe	Methodist	3	5	8	5	2	2	3	1	.....	.....
Bella Bella	Bella Bella	Bella Coola	James Oliver, M.A	"	24	21	45	12	38	5	1	1	.....	.....
Bella Coola	Bella Colla	"	Mrs. Isabel Snodgrass	"	18	20	38	14	18	10	1	9	.....	.....
China Hat	China Hat	"	Miss Flora Robinson	"	17	12	29	18	10	12	5	2	.....	.....
Kitamat	Kitamat	"	Miss Ruth Nelson	"	32	8	40	9	30	4	3	2	1	.....
Koksilah	Koksilah	Cowichan	Miss Phyllis Gibson	Undenominational	13	15	28	9	18	2	3	5	.....	.....
Nanaimo	Nanaimo	"	Miss Olive E. Ozburn	Methodist	25	19	44	26	15	13	8	7	1	.....
Songhees	Somenos	"	Miss Florence Geogheha	nRoman Catholic	5	3	8	4	2	3	3	.....	.....	.....
Alert Bay	Nimkish	Kwawkewlth	Geo. M. Luther	Church of England	13	12	25	15	17	1	7	.....	.....	.....
Cape Mudge	Cape Mudge	"	Mrs. Florence Howard	Methodist	10	10	20	13	8	5	6	1	.....	.....
Boothroyd	Boothroyd	Lytton	Miss Lilly Blachford	Church of England	11	10	21	14	5	7	5	3	1	.....
Shulus	Nicola Mamut	Kamloops	A. E. Fyall	"	9	7	16	6	11	5	.....	.....	.....	.....

SCHOOL STATEMENT

STATEMENT of Indian Day Schools in the Dominion for the Fiscal Year ended March 31, 1923—*Concluded*

School	Reserve	Agency	Teacher	Denomination	Number on Roll			Average Attendance	Standard					
					Boys	Girls	Total		I	II	III	IV	V	VI
BRITISH COLUMBIA—*Con.*														
Gitladamicks	Gitladamicks	Naas	Miss Mabel Winstone	Church of England	21	28	49	27	26	11	11	1	.....	.....
Gwinoha	Gwinoha	"	Paul A. Mercer	"	13	4	17	10	9	7	1	.....	.....	.....
Kincolith	Kincolith	"	Miss Alice Collison	"	19	21	40	18	15	19	4	2	.....	.....
Lakalsap	Lakalsap	"	Miss Alice E. Hannum	"	19	21	40	23	14	5	9	8	4	.....
Chehalis	Chehalis	New Westminster	J. J. Moroney	Roman Catholic	14	12	26	20	11	1	4	4	5	.....
Katzie	Katzie	"	Miss Mary E. Doyle	"	10	11	21	12	10	5	3	3	.....	.....
Skwah	Skwah	"	Walter H. Grimshaw	"	16	13	29	13	16	7	6	.....	.....	.....
Okanagan	Okanagan	Okanagan	William Marsden	"	13	5	18	15	17	1	.....	.....	.....	.....
Osoyoos	Osoyoos	"	Miss H. E. McDonald	"	5	3	8	6	3	1	1	2	1	.....
Penticton	At Penticton	"	Miss Helen Coughlan	"	9	11	20	16	16	4	.....	.....	.....	.....
Massett	Massett	Queen Charlotte	Alfred Adams Peter Hill	Church of England	47	33	80	35	40	15	14	7	4	.....
Skidegate	Skidegate	"	Miss Blanche Ward	Methodist	25	27	52	26	17	8	9	13	1	4
Telegraph Creek	At Telegraph Ck	Stikine	R. T. Pollock	Undenominational	7	8	15	4	8	3	4	.....	.....	.....
Hartley Bay	Hartley Bay	Skeena	Rev. J. H. Matthews	Methodist	13	10	23	14	8	5	4	6	.....	.....
Kitkatla	Kitkatla	"	George Coffin	Church of England	28	29	57	22	19	14	14	10	.....	.....
Metlakatla	Metlakatla	"	Miss Aileen McCarthy	"	18	19	37	19	13	8	6	3	7	.....
Port Essington	Skeena	"	Miss Fanny J. Noble	Methodist	13	16	29	12	18	3	5	.....	3	.....
Port Simpson	At Port Simpson	"	Miss Kate Tranter	"	38	47	85	34	33	8	24	16	4	.....
Kitselas	Kitselas	"	Chas M. McKinnon	"	4	14	18	11	9	6	1	2	.....	.....
Sliammon	Sliammon	Vancouver	Basil Nicholson	Roman Catholic	6	12	18	7	8	3	7	.....	.....	.....
Squamish	Squamish	"	Rev. Sr. Mary Amy	"	7	15	22	15	11	5	3	1	.....	2
Homalco	Aupe	"	Miss Doris Boyle	"	21	12	33	13	19	4	5	4	1	.....
Nitinat	Clo-oose	West Coast	Rev. J. E. Rendle	Methodist	8	7	15	12	7	3	4	1	.....	.....
Ucluelet	Itedse	"	Miss Gertrude Lawrence	Presbyterian	13	14	27	10	14	3	4	5	1	.....
Total, British Columbia					693	657	1,350	625	648	274	226	141	52	9
NORTHWEST TERRITORIES														
Fort Smith	At Fort Smith	Fort Smith	Sr. Gadbois	Roman Catholic	5	3	8	3	4	4	.....	.....	.....	.....
St. David's Mission	At Fort Simpson	Fort Simpson	Rev. F. C. Clarke, M.A.	Church of England	4	4	8	3	4	2	.....	.....	2	.....
Fort Simpson	"	"	Sr. Mary L. Champoux	Roman Catholic	8	7	15	9	6	4	1	2	2	.....
Fort McPherson	McKenzie River District		Rev. J. M. Crisall	Church of England	4	10	14	7	14	.....	.....	.....	.....	.....
Fort Norman	"		Rev. Franklin Clarke	"	5	1	6	4	6	.....	.....	.....	.....	.....
Total, Northwest Territories					26	25	51	26	34	10	1	2	4	.....

YUKON															
Moosehide	At Moosehide	Yukon	Rev. Benjamin Totty	Church of England		7	10	17	7	12	5				
Selkirk	At Selkirk	"	Miss Kathleen Martin	"		10	13	23	5	23					
Old Crow Village	Old Crow Village	"	Rev. G. M. Moody	"		10	12	22	18	8	8	6			
Champagne Landing	At Champagne Ldg.	"	Rev. F. H. Stringer	"		28	12	40	12	24	16				
Herschell Island	At Herschell Island	"	Rev. W. A. Geddes	"		35	18	53	33	53					
Little Salmon	At Little Salmon	"	Rev. C. G. Eakins	"		11	2	13	4	6	5			2	
Aklavik	At Aklavik	"	Rev. E. H. Gillies	"		6	7	13	9	7	4	2			
Total, Yukon						107	74	181	88	133	38	8		2	

SCHOOL STATEMENT

STATEMENT of Indian Residential Schools in the Dominion for the Fiscal Year ended March 31, 1923.

School	Reserve	Agency	Teacher	Denomination	Number on Roll			Average Attendance	Standard					
					Boys	Girls	Total		I	II	III	IV	V	VI
ONTARIO														
Chapleau	Chapleau	Chapleau	Rev. Geo. Prewer	Church of England	57	42	99	88	67	21	10	1	.....	.....
Fort Frances	Fort Frances	Fort Frances	Rev. H. M. Brassard, O.M.I.	Roman Catholic	38	48	86	82	26	9	11	15	11	14
Cecilia Jeffrey	Shoal Lake Reserve	Kenora	Rev. W. J. Cookson	Presbyterian	33	42	75	71	21	7	22	11	6	8
Kenora	Kenora	"	Rev. Herve Kerbrat, O.M.I.	Roman Catholic	41	37	78	68	46	9	12	6	4	1
Fort William Orphanage	Fort William	Fort William	Sr. M. F. Clare	"	16	21	37	27	27	3	3	4	.....	.....
Albany Mission	Fort Albany	Treaty No. 9	Rev. L. Carriere, O.M.I.	"	13	17	30	22	2	5	12	11	.....	.....
Moose Fort	Moose Fort	"	Rev. J. T. Griffin	Church of England	15	16	31	26	16	5	7	3	.....	.....
Mohawk Institute	Brantford	Six Nations	S. Rogers	"	59	77	136	117	28	19	25	31	13	20
Mount Elgin Institute	Muncey	.....	Rev. S. R. McVitty	Methodist	73	92	165	125	26	17	49	44	29	.....
Shingwank Home	Sault Ste. Marie	.....	Rev. B. P. Fuller	Church of England	50	40	90	78	21	17	19	18	7	8
Spanish	Spanish	.....	Rev. G. A. Artus, S.J.	Roman Catholic	129	100	229	200	91	55	33	31	14	5
Total, Ontario	.....	.....	.....	.....	524	532	1,056	904	371	167	203	175	84	56
MANITOBA														
Birtle	Birtle	Birtle	Rev. F. E. Pitts	Presbyterian	31	39	70	63	19	8	9	19	8	7
Brandon	Brandon	.....	Rev. T. Ferrier	Methodist	68	60	128	119	22	20	18	30	13	25
Fort Alexander	Fort Alexander	Clandeboye	Rev. P. Bousquet, O.M.I.	Roman Catholic	29	43	72	68	13	23	12	4	12	8
Pine Creek	Pine Creek	Manitowapah	Rev. J. Brachet, O.M.I.	"	32	51	83	70	27	23	15	8	10	.....
Sandy Bay	Sandy Bay	"	Rev. O. Chagnon, O.M.I.	"	33	32	65	60	23	15	12	12	3	.....
Cross Lake	Cross Lake	Norway House	Rev. H. Boissin, O.M.I.	"	47	45	92	9	27	7	12	20	11	15
Norway House	Norway House	"	James T. Blackford	Methodist	41	58	99	95	31	13	23	5	17	10
Portage la Prairie	Portage la Prairie	Portage la Prairie	Rev. W. A. Hendry	Presbyterian	44	55	99	92	20	25	27	22	5	.....
Mackay	The Pas	The Pas	W. Tinney	Church of England	41	44	85	80	35	18	9	13	3	7
Total, Manitoba	.....	.....	.....	.....	366	427	793	736	217	152	137	133	82	72
SASKATCHEWAN														
Thunderchild	Delmas	Battleford	Rev. A. Watelle, O.M.I.	Roman Catholic	40	31	71	62	29	16	11	10	1	4
Beauval	Lac la Plonge	Carlton	Rev. M. Lajeunesse, O.M.I.	"	30	45	75	67	11	22	28	11	3	.....
Lac la Ronge	Lac La Ronge	"	Rev. Chas. F. Hives	Church of England	28	63	91	74	73	11	7	.....	.....	.....
Cowessess	Cowessess	Crooked Lake	Rev. J. Carriere, O.M.I.	Roman Catholic	38	37	75	70	23	17	10	13	4	8
Round Lake	Stockholm	"	R. J. Ross	Presbyterian	30	38	68	50	27	7	14	18	.....	2
Duck Lake	Duck Lake	Duck Lake	Rev. H. Delmas, O.M.I.	Roman Catholic	57	55	112	109	35	20	14	20	13	10
File Hills	Balcarres	File Hills	Frank Rhodes	Presbyterian	28	45	73	65	30	14	11	10	1	7
Onion Lake (R.C.)	Onion Lake	Onion Lake	Rev. J. A. Therien	Roman Catholic	32	28	60	53	29	12	9	7	3	.....
Onion Lake (C.E.)	"	"	Rev. Henry Ellis	Church of England	29	17	46	38	18	6	3	8	11	.....
Gordon's	Punnichy	Touchwood	Rev. H. W. Atwater	"	34	48	82	69	46	3	3	13	12	5

Muscowequan's	Lestock	"	Rev. P. Geelin, O.M.I.	Roman Catholic	35	36	71	62	17	14	11	19	6	4
Qu'Appelle	Lebret		Rev. G. Leonard, O.M.I.	"	123	130	253	218	63	70	44	25	18	33
Total, Saskatchewan					504	573	1,077	937	401	212	165	154	72	73
ALBERTA														
Blood (C.E.)	MacLeod	Blood	Rev. S. Middleton	Church of England	37	41	78	70	35	15	19	9	.....	.....
Blood (R.C.)	Standoff	"	Rev. E. Ruaux, O.M.I.	Roman Catholic	34	31	65	61	28	12	13	8	4	.....
Crowfoot	Cluny	Blackfoot	Rev. J. Riou, O.M.I.	"	30	35	65	61	19	11	15	14	3	3
Old Sun's	Gleichen	"	Rev. F. M. Ross Gibney	Church of England	28	22	50	47	35	10	5	.....	.....	.....
St. Albert	St. Albert	Edmonton	Sr. Gosselin	Roman Catholic	48	40	88	77	38	14	11	12	6	7
Holy Angels	Fort Chipewyan	Treaty No. 8	Sr. M. Z. Dufault	"	14	28	42	35	29	9	3	1	.....	.....
Ermineskins	Hobbema	Hobbema	Rev. P. P. Moulin O.M.I.	"	32	40	72	65	33	17	8	8	6	.....
Peigan (C.E.)	Brocket	Peigan	G. A. Roe	Church of England	19	16	35	31	12	10	5	6	1	1
Peigan (R.C.)	"	"	Rev. J. L. Levern, O.M.I.	Roman Catholic	23	15	38	31	17	7	5	5	4	.....
Blue Quills	Sacred Heart	Saddle Lake	Rev. R. L. Dauphin, O.M.I.	"	31	30	61	50	35	5	10	9	2	.....
Lesser Slave Lake	Grouard	Lesser Slave Lake	Rev. Wm. J. Kent	Church of England	5	7	12	8	4	1	7	.....	.....	.....
St. Bernard's	"	"	Rev. Y. M. Floch, O.M.I.	Roman Catholic	13	25	38	32	21	8	3	4	2	.....
St. Bruno's	"	"	Rev. J. B. H. Giroux, O.M.I.	"	38	44	82	80	27	21	17	17	.....	.....
Sturgeon Lake	Calais	"	Rev. R. Hautin, O.M.I.	"	25	33	58	47	26	14	6	5	3	4
Vermilion	Fort Vermilion	"	Rev. John Habey, O.M.I	"	10	16	26	19	9	2	6	3	3	3
Wabasca (C.E.)	Wabasca	"	Archd'n A. S. White	Church of England	7	7	14	8	6	3	2	3	.....	.....
Wabasca (R.C.)	"	"	Rev. C. Batie, O.M.I.	Roman Catholic	12	15	27	20	6	10	7	2	.....	2
Whitefish Lake	Whitefish Lake	"	Rev. C. D. White	Church of England	7	12	19	12	9	6	4	.....	.....	.....
St. Joseph	Davisburg		Rev. J. A. Demers, O.M.I.	Roman Catholic	28	10	38	35	4	3	12	5	7	7
Total, Alberta					441	467	908	789	393	178	158	111	41	27
NORTHWEST TERRITORIES														
Fort Resolution	Fort Resolution	Fort Smith	Sr. A. McQuillan	Roman Catholic	18	36	54	45	18	7	13	10	1	5
Hay River	Hay River	"	Rev. A. J. Vale	Church of England	27	36	63	47	32	9	4	7	11	.....
Providence Mission	Fort Providence	Fort Simpson	Sr. St. Rose of Lima	Roman Catholic	28	34	62	53	31	11	11	6	3	.....
Total, Northwest Territories.					73	106	179	145	81	27	28	23	15	5
BRITISH COLUMBIA														
Kitamat	Kitamat	Bella Coola	Miss Ida M. Clarke	Methodist	6	26	32	26	13	7	2	3	7	.....
Kuper Island	Kuper Island	Cowichan	Rev. A. Murphy, O.M.I.	Roman Catholic	52	49	101	85	22	23	22	17	13	4
Kamloops	Kamloops	"	Rev. Jas. McGuire, O.M.I.	"	36	35	71	67	15	16	25	8	7	.....
Alert Bay Girl's Home	Alert Bay	Kwawkewlth	J. Vivian S. Lord	Church of England	.....	36	26	26	11	6	7	5	4	3
Alert Bay Industrial	"	"	" "	"	40	.....	40	33	19	4	5	4	5	3
Kootenay	Cranbrook	Kootenay	Sr. Mary Napoleon	Roman Catholic	35	45	80	80	20	7	18	23	8	4
Lytton	Lytton	Lytton	Rev. A. R. Lett	Church of England	64	51	115	99	14	23	30	34	14	.....
Sechelt	Sechelt	New Westminster	Sr. Gabriel	Roman Catholic	35	45	80	71	43	11	7	14	5	.....
Coqualeetza	Sardis	"	Rev. Geo. H. Raley	Methodist	88	77	165	143	52	18	33	36	19	7
St. Mary's Mission	Mission City	"	Rev. John Duplanil, O.M.I.	Roman Catholic	48	46	94	86	25	18	29	22	.....	.....
Fraser Lake	Fraser Lake	Stuart Lake	Rev. N. Coccola, O.M.I.	"	68	73	141	132	75	12	10	18	17	9
Squamish	North Vancouver	Vancouver	Sr. Mary Amy	"	29	24	53	52	6	6	11	19	5	6
Alberni	Alberni	West Coast	Rev. H. B. Currie	Presbyterian	44	38	82	74	27	16	1	14	11	13

SCHOOL STATEMENT

STATEMENT of Indian Residential Schools in the Dominion for the Fiscal Year ended March 31, 1923—*Concluded*

School	Reserve	Agency	Teacher	Denomination	Number on Roll			Average Attendance	Standard					
					Boys	Girls	Total		I	II	III	IV	V	VI
BRITISH COLUMBIA—*Con.*														
Ahousaht	Ahousaht	"	Rev. J. L. Millar, B.A.	Presbyterian	18	13	31	28	6	5	4	7	4	2
Christie	Kakawis	"	Rev. Idlefonse Calmus	Roman Catholic	37	41	78	60	35	10	13	15	4	1
Cariboo	150 Mile House	Williams Lake	Rev. E. Maillard, O.M.I.	"	36	41	77	71	18	12	18	12	17	.....
Total, British Columbia					636	640	1,276	1,133	401	194	235	254	140	52
YUKON														
Carcross	Carcross	Yukon	Rev. W. Barlow	Church of England	17	19	36	33	16	10	4	6	.....	.....
St. Paul's Hostel	Dawson City	"	C. F. Johnson	"	11	11	22	18	22	.....	.....	.....	.....	.....
Total, Yukon					28	30	58	51	38	10	4	6	.....	.....

SCHOOL STATEMENT

STATEMENT of combined Public and Indian Schools in the Dominion, at which Indian children attend, for the Fiscal Year ended March 31, 1923.

School	Reserve	Agency	Number on Roll			Average Attendance	Standard					
			Boys	Girls	Total		I	II	III	IV	V	VI
NOVA SCOTIA												
Heatherton	At Heatherton	Antigonish County	5	4	9	3	5	3	1	.....	.....	.....
Halfway River	Franklin Manor	Cumberland "	.....	1	1	1	1	.....	.....	.....	.....	.....
Millville	At Bishopville	King's "	2	2	4	2	4	.....	.....	.....	.....	.....
Total, Nova Scotia			7	7	14	6	10	3	1	.....	.....	.....
QUEBEC												
Moisie River	At Moisie River	Seven Islands	.....	8	8	6	.....	8	.....	.....	.....	.....
ONTARIO												
Calabogie S.S. No. 5	At Calabogie	Golden Lake	1	2	3	2	1	1	1	.....	.....	.....
Little Current	Little Current	Manitowaning	2	9	11	4	6	.....	2	3	.....	.....
Scugog S.S. No. 3	Scugog Island	Scugog Lake	7	2	9	4	5	3	1	.....	.....	.....
Total, Ontario			10	13	23	10	12	4	4	3	.....	.....
MANITOBA												
Crane River	At Crane River	Manitowapah	5	8	13	3	13	.....	.....	.....	.....	.....
Moose Lake	At Moose Lake	Pas	10	12	22	6	19	.....	2	1	.....	.....
Patapun	St. Peter's	Clandeboye	2	2	4	3	.....	.....	.....	4	.....	.....
Peguis Provincial	Surrendered part of St. Peter's Reserve	"	7	5	12	6	4	3	2	1	.....	2
Total, Manitoba			24	27	51	18	36	3	4	6	.....	2
SASKATCHEWAN												
Round Plains	Round Plains	Carleton	3	6	9	7	9	.....	.....	.....	.....	.....
BRITISH COLUMBIA												
Westbank	At Westbank	Okanagan	1	3	4	2	1	1	.....	2	.....	.....

SCHOOL STATEMENT

STATEMENT showing the enrolment by Provinces in the different classes of schools for the Fiscal Year ended March 31, 1923

DAY SCHOOLS

Province	Number of Schools	Denomination						Number on Roll			Average Attendance	Percentage of Attendance	Standard					
		Undenominational	Roman Catholic	Church of England	Methodist	Presbyterian	Salvation Army	Boys	Girls	Total			I	II	III	IV	V	VI
Nova Scotia	11	.....	11	.....	.....	.....	.....	138	141	279	138	49·46	164	46	37	15	11	6
Prince Edward Island	2	.....	2	.....	.....	.....	.....	20	17	37	15	40·54	14	11	6	5	1	.....
New Brunswick	11	.....	11	.....	.....	.....	.....	141	129	270	161	59·63	102	59	49	42	17	1
Quebec	31	8	16	5	2	.....	.....	812	779	1,591	1,028	64·61	712	391	202	141	89	56
Ontario	81	42	19	14	6	.....	.....	1,434	1,337	2,771	1,446	52·18	1,373	457	489	269	163	20
Manitoba	40	.....	6	23	10	1	.....	620	538	1,158	555	47·93	730	228	113	60	25	2
Saskatchewan	18	.....	3	11	1	3	.....	239	174	413	203	49·71	249	81	44	33	4	2
Alberta	6	.....	.....	1	5	.....	.....	84	82	166	77	46·39	123	20	12	9	1	1
Northwest Territories	5	.....	2	3	.....	.....	.....	26	25	51	26	50·98	34	10	1	2	4	.....
British Columbia	43	2	12	12	15	1	1	693	657	1,350	625	44·81	648	274	226	141	52	9
Yukon	7	.....	.....	7	.....	.....	.....	107	74	181	88	48·62	133	38	8	.....	2	.....
Total, Day Schools	255	52	82	76	39	5	1	4,314	3,953	8,267	4,362	52·76	4,282	1,615	1,187	717	369	97

RESIDENTIAL SCHOOLS

Ontario	11	.....	5	4	1	1	.....	524	532	1,056	904	85·61	371	167	203	175	84	56
Manitoba	9	.....	4	1	2	2	.....	366	427	793	736	92·81	217	152	137	133	82	72
Saskatchewan	12	.....	7	3	.....	2	.....	504	573	1,077	937	87·00	401	212	165	154	72	73
Alberta	19	.....	13	6	.....	.....	.....	441	467	908	789	86·89	393	178	158	111	41	27
Northwest Territories	3	.....	2	1	.....	.....	.....	73	106	179	145	81·01	81	27	28	23	15	5
British Columbia	16	.....	9	3	2	2	.....	636	640	1,276	1,133	88·79	401	194	235	254	140	52
Yukon	2	.....	.....	2	.....	.....	.....	28	30	58	51	88·00	38	10	4	6	.....	.....
Total, Residential Schools	72	.....	40	20	5	7	.....	2,572	2,775	5,347	4,695	87·81	1,902	940	930	856	434	285

Nova Scotia	3	.....	.....	.....	.....	.....	.....	7	7	14	6	42·86	10	3	1	.....	.....	.....
Quebec	1	.....	.....	.....	.....	.....	.....	.....	8	8	6	75·00	.....	8	.....	.....	.....	.....
Ontario	3	.....	.....	.....	.....	.....	.....	10	13	23	10	43·48	12	4	4	3	.....	.....
Manitoba	4	.....	.....	.....	.....	.....	.....	24	27	51	18	35·29	36	3	4	6	.....	2
Saskatchewan	1	.....	.....	.....	.....	.....	.....	3	6	9	7	77·77	9	.....	.....	.....	.....	.....
British Columbia	1	.....	.....	.....	.....	.....	.....	1	3	4	2	50·00	1	1	.....	2	.....	.....
Total	13	.....	.....	.....	.....	.....	.....	45	64	109	49	44·95	68	19	9	11	.....	2

SUMMARY OF

Province	Class of Schools			Total Number of Schools	Denomination					
	Day	Combined	Residential		Undenominational	Roman Catholic	Church of England	Methodist	Presbyterian	Salvation Army
Nova Scotia	11	3	....	14	3	11	.....	.....	.....	.....
Prince Edward Island	2	....	....	2	.....	2	.....	.....	.....	.....
New Brunswick	11	....	....	11	.....	11	.....	.....	.....	.....
Quebec	31	1	....	32	9	16	5	2	.....	.....
Ontario	81	3	11	95	45	24	18	7	1	.....
Manitoba	40	4	9	53	4	10	24	12	3	.....
Saskatchewan	18	1	12	31	1	10	14	1	5	.....
Alberta	6	....	19	25	.....	13	7	5	.....	.....
Northwest Territories	5	....	3	8	.....	4	4	.....	.....	.....
British Columbia	43	1	16	60	3	21	15	17	3	1
Yukon	7	....	2	9	.....	.....	9	.....	.....	.....
Total	255	13	72	340	65	122	96	44	12	1

SESSIONAL PAPER No. 14

SCHOOL STATEMENT

Number on Roll			Average Attendance	Percentage of Attendance	Standard						
Boys	Girls	Total			I	II	III	IV	V	VI	
145	148	293	144	49·15	174	49	38	15	11	6	
20	17	37	15	40·54	14	11	6	5	1	.....	
141	129	270	161	59·63	102	59	49	42	17	1	
812	787	1,599	1,034	64·61	712	399	202	141	89	56	
1,968	1,882	3,850	2,360	61·41	1,756	628	696	447	247	76	
1,010	992	2,002	1,309	66·17	983	383	254	199	107	76	
746	753	1,499	1,147	76·52	659	293	209	187	76	75	
525	549	1,074	866	80·63	516	198	170	120	42	28	
99	131	230	171	74·35	115	37	29	25	19	5	
1,330	1,300	2,630	1,760	66·95	1,050	469	461	397	192	61	
135	104	239	139	58·16	171	48	12	6	2	.....	
6,931	6,792	13,723	9,106	66·58	6,252	2,574	2,126	1,584	803	384	

INDIAN LAND STATEMENT

SHOWING the number of acres of Indian Lands sold during the year ended the 31st March, 1923, the total amount of purchase money realized and the quantity of land unsold at that date.

ONTARIO

Town or Township	County or District	Number of Acres Sold	Amount of Sale	Number of Acres Unsold	Remarks
		Acres	$ cts.	Acres	
Albermarle	Bruce			100·00	Some of these lands
Eastnor	"			358·00	were resumed by
Lindsay	"			589·00	the department
St. Edmund	"			206·00	the conditions of
Bury (townplot)	"			161·95	sale not having
Oliphant (townplot)	"			40·00	been complied
Southampton (townplot)	"			2·00	with, so that in
Wiarton (townplot)	"			8·05	certain cases there
Islands of Saugeen Peninsula	"	1 75	10 00	161·80	appears to have
White Cloud Islands	Grey			7·00	been more land re-
Thessalon	Algoma	78 89	130 50	118·35	maining unsold at
Thessalon (townplot)	"			11·80	the close of the
Herrick	"			190·00	past fiscal year
Havilland	"			718·00	than remained un-
Apaquosh (townplot)				10·00	sold according to
Laird	"			3,586·00	the previous year's
Vankoughnet	"			800·00	report.
Kehoe	"			14,337·00	
Fenwick	"			1,893·00	
Cobden	"			370·21	
Ley	"			263·00	
Fisher	"			80·00	
Fisher (townplot)	"			141·90	
Tupper	"			540·50	
Bidwell	Manitoulin			2·00	
Campbell	"			361·00	
Carnarvon	"			962·00	
Howland	"			750·00	
Sheguiandah (townplot)	"			23·80	
Manitowaning (townplot)	"	1·834	125 00	20·79	
Tehkummah	"	2·00	107 60	1,138·10	
Sandfield	"	3	175 00	83·00	
Shaftsbury (townplot)	"	3	175 00	5·50	
Tolsmoville (townplot)	"			1,002·00	
Allan	"			288·00	
West Bay	"			8,244·07	
Billings	"			112·00	
Burpee	"			97·00	
Barrie Island	"			2·00	
Gordon	"			53·00	
Gore Bay (townplot)	"			2·50	
Mills	"			13·00	
Cockburn Island	"			8,310·00	
Dawson	"			5,487·00	
Robinson	"			9,500·00	
South Baymouth (townplot)	"			133·00	
Meldrum (townplot)	"			76·80	
Cayuga (townplot)	Haldimand			33·36	
Caledonia (townplot)	"			50·00	
Shannonville (townplot)	Hastings			0·39	
Thurlow	"			130·00	
Deseronto (townplot)	"			4·40	
Tyendinaga	"			380·00	
Bedford	Frontenac			208·00	
Islands in river St. Lawrence	Prov. Ontario	0·20	50 00	8·51	
Wild Land Reserve	Rainy River	578·79	2,040 50	5,363·11	
Islands in Georgian Bay	Prov. of Ontario	28·08	590 00		1,163 islands and

INDIAN LAND STATEMENT

SHOWING the number of acres of Indian Lands sold during the year ended the 31st March, 1923, the total amount of purchase money realized and the quantity of land unsold at that date—*Continued.*

ONTARIO—*Concluded*

Town or Township	County or District	Number of Acres Sold	Amount of Sale	Number of Acres Unsold	Remarks
		Acres	$ cts.	Acres	
Long Sault Res.	Rainy River	.....	.....	412·69	islets.
Little Forks Reserve	.....	.....	.....	251·43	
Beaucage	Nipissing	1,775·00	6,496 25	13,572·42	
Commanda	"	420·00	1,365 00	23,481·58	
Pedley	"	161·00	724 50	5,775·30	
Islands, Otonabee waters	Peterborough	4·11	125 00	.....	
		3,252·664	$11,939 35	111,031·31	

SASKATCHEWAN

Lost Mountain Lake Res. 80A.	Assiniboia	.....	.....	1,207·50	
Lakeview (townplot)	"	6·50	2,670 00	99·78	
Assiniboine Reserve	"	160·00	2,400 00	478·50	
Muscowpetung	"	.....	.....	1,463·40	
Kylemore (townplot)	Humboldt	.....	.....	19·58	
Lestock (town plot)	"	2·86	505 00	8·99	
Fishing Lake Reserve	"	.....	....	618·30	
Crooked Lakes	Moosomin	.....	.....	3,346·86	
Swan Lake 7A	Saskatoon	.....	.....	320·00	
Moosomin and Thunderchild	West Sask	686·05	5,528 00	2,695·28	
Grizzly Bear Nos. 110 and 111	Humboldt	.....	.....	1,136·20	
Muscowequan	"	.....	.....	6,755·23	
Cote Reserve	"	.....	.....	336·59	
Keeseekoose Reserve	"	.....	.....	571·00	
Key Reserve	"	.....	.....	375·74	
Kamsack (townplot)	"	.....	.....	3·11	
Little Bone	"	.....	.....	3,776·50	
		855·41	$11,103 00	23,212·56	

ALBERTA

Wabamun Reserve	N'th Alberta	.....	.....	1,759·86	
Wabamun (townplot)	"	.....	.....	456·13	
Sharphead Reserve	"	.....	.....	342·30	
Samson Reserve	"	.... 2,000·00	29,960 00	639·42	
Louis Bull	"	.....	.....	1,076·00	
Duffield (townplot)	"	.....	.....	235·81	
Michel Reserve	"	.... 37·00	444 00	305·00	
Blackfoot Reserve	South Alberta	.... 160·00	6,710 00	9,296·61	
Sarcee Reserve	"	.....	.....	6,650·00	
Peigan Reserve	"	.....	.....	10,442·00	
		2,197·00	$37,114 00	31,203·13	

MANITOBA

Gamblers Reserve	Marquette	.....	.....	160·00	
The Pas (townplot)	Neepawa	0·20	400 00	731·57	
Long Plain Reserve	Portage la Prairie	.....	.....	968·06	
		·20	400 00	1,859·63	

INDIAN LAND STATEMENT

SHOWING the number of acres of Indian Lands sold during the year ended the 31st March, 1923, the total amount of purchase money realized and the quantity of land unsold at that date—*Concluded.*

NEW BRUNSWICK

Town or Township	County or District	Number of Acres Sold	Amount of Sale	Number of Acres Unsold	Remarks
		Acres	$ cts.	Acres	
Tobique	Victoria	.....	.....	283·00	
Tabusintac	Northumberland	509·00	973 50	1,984·00	
Edmundston	Victoria	.....	.....	.....	
		509·00	973 50	2,267·00	

BRITISH COLUMBIA

Scowlitz Reserve No. 1	New Westminster	0·25	1,460 00	.....	
Port Langley Reserve No. 2	"	1·51	302 00	.....	
Rich Bar Reserve No 4	Cariboo	20·13	100 65	.....	
Quesnel Reserve No. 1	Williams Lake	12·59	256 80	.....	
Holachten Reserve No. 8	New Westminster	7·05	100 00	.....	
Salaquo Reserve No. 4	Stuart Lake	42·08	856 00	.....	
Halalt Reserve	Cowichan	0·50	350 00	.....	
		84·11	3,425 45	.....	

QUEBEC

Quiatchouan	Lake St. John	.....	.....	3,917·14	
Dundee	Huntingdon	.....	.....	4,057·74	
Maniwaki (townplot)	Ottawa	.....	.....	39·61	
Temiscamingue	Temiskaming	.....	.....	1,728·59	
Quarante Arpents	Laprairie	.....	.....	19·00	
		.....	.....	9,762 08	

GENERAL REMARKS

The land sold during the year amounted to 6,898·38 acres, which realized $64,955.30. The quantity of surrendered land in the hands of the department was approximately 179,335·71 acres. The principal outstanding, on account of Indian lands sold, amounted to $1,992,505.87, a considerable portion of which has not yet become due.

CIVIL GOVERNMENT, 1922-1923

Vote	Grant	Expenditure	Grant not used	Grant exceeded
	$ cts.	$ cts.	$ cts.	$ cts.
Salaries	145,980 00	135,614 16	10,365 84	
Contingencies	19,000 00	20,068 00		1,068 00
Unexpended Balance				9,297 84
	164,980 00	155,682 16	10,365 84	10,365 8

APPROPRIATION ACCOUNTS, 1923-1923

Vote	Grant	Expenditure	Grant not used	Grant exceeded
	$ cts.	$ cts.	$ cts.	$ cts.
Annuities—				
Treaty 9	205,290 00	592 00		
Robinson Treaty		10,000 00		17,558 00
Manitoba, Saskatchewan, Alberta and N.W.T.		212,256 00		
Amount over expended			17,558 00	
	205,290 00	222,848 00	17,558 00	17,558 00
Prince Edward Island—				
Salaries	1,160 00	1,040 00	120 00	
Relief	1,375 00	1,798 12		423 12
Medical	850 00	910 75		60 75
Miscellaneous	250 00	186 03	63 97	
Repairs to roads	300 00		300 00	
Unexpended balance				0 10
	3,935 00	3,934 90	483 97	483 97
Nova Scotia—				
Salaries	6,240 00	5,185 88	1,054 12	
Relief	11,000 00	27,675 15		16,675 15
Medical	6,000 00	13,010 72		7,010 72
Miscellaneous	25,300 00	2,045 94	23,254 06	
Agriculture and Seed	1,000 00	1,606 22		606 22
Repairs to roads	3,600 00	3,615 33		15 33
Unexpended balance				0 76
	53,140 00	53,139 24	24,308 18	24,308 18
New Brunswick—				
Salaries	3,184 00	2,694 77	489 23	
Relief	18,000 00	16,505 83	1,494 17	
Medical	5,300 00	6,971 44		1,671 44
Miscellaneous	1,400 00	2,032 95		632 95
Agriculture and Seed	1,000 00	1,116 21		116 21
Repairs to roads	450 00	5 00	445 00	
Unexpended balance				7 80
	29,334 00	29,326 20	2,428 40	2,428 40
Ontario and Quebec—				
Relief	79,718 00	86,416 72		6,698 72
General Expenses	83,017 00	84,820 25		1,803 25
Repairs to roads	58,180 00	51,869 47	6,310 53	
Clearing Land	3,000 00		3,000 00	
Unexpended balance				808 56
	223,915 00	223,106 44	9,310 53	9,310 53

APPROPRIATION ACCOUNTS, 1922-1923—*Concluded.*

Vote	Grant	Expenditure	Grant not used	Grant excluded
	$ cts.	$ cts.	$ cts.	$ cts.
Manitoba, Saskatchewan, Alberta and North West Territories—				
Implements, tools, etc	10,190 00	6,551 57	3,638 43	
Field and garden seeds	2,013 00	5,697 62	.....	3,684 62
Live Stock	2,150 00	3,557 66	.....	1,407 66
Supplies for destitute	143,527 00	164,597 03	.....	21,070 03
Medical attendance, hospitals, etc	154,900 00	184,565 84	.....	29,665 84
Triennial Clothing	3,540 00	5,184 65	.....	1,644 65
Surveys	11,000 00	3,665 90	7,334 10	
Sioux	8,145 00	7,068 06	1,076 94	
Mills	3,462 00	5,052 31	.....	1,590 31
General expenses	338,805 00	291,734 93	47,070 07	
Unexpended balance	.....	.....	.....	56 43
	677,732 00	677,675 57	59,119 54	59,119 54
British Columbia—				
Salaries	72,730 00	65,254 89	7,475 11	
Relief	35,000 00	36,512 68	.....	1,512 68
Seed	8,450 00	4,809 69	3,640 31	
Medical	80,000 00	89,940 11	.....	9,940 11
Travelling expenses	25,000 00	28,080 53	.....	3,080 53
Miscellaneous	40,940 00	41,260 85	.....	320 85
Surveys	5,000 00	720 00	4,280 00	
Unexpended balance	.....	.....	.....	541 25
	267,120 00	266,578 75	15,395 42	15,395 42
Yukon—				
Relief, medical attendance and medicines	11,000 00	11,523 11	.....	523 11
General expenses	4,000 00	3,461 10	538 90	
Unexpended balance	.....	.....	.....	15 79
	15,000 00	14,984 21	538 90	538 90
General—				
Surrender of land	50,000 00	10,188 00	39,812 00	
Relief	65,000 00	82,834 52	.....	17,834 52
Tuberculosis	10,000 00	23,605 23	.....	13,605 23
Printing and Stationery	5,000 00	6,066 28	.....	1,066 28
Assistance to Trust Fund Account 310	3,000 00	3,000 00	.....	
Surveys	3,000 00	589 31	2,410 69	
Smallpox, etc	10,000 00	4,865 38	5,134 62	
Registration Fees	1,500 00	180 75	1,319 25	
Legal Expenses	15,000 00	14,498 83	501 17	
Unexpended balance	.....	.....	.....	16,671 70
	162,500 00	145,828 30	49,177 73	49,177 73
Indian Education	1,437,643 00	1,437,642 03	97	aa
Bonus Vote 563	.....	71,735 42	.....	
Retirement Act 1920	.....	2,776 66	.....	
Gratuities	.....	480 00	.....	

SESSIONAL PAPER No. 14

RECAPITULATION APPROPRIATION ACCOUNTS, 1922-1923

Vote	Grant	Expenditure	Grant not used	Grant exceeded
Civil Government	164,980 00	155,682 16	9,297 84	.....
Annuities	205,290 00	222,848 00	.....	17,558 00
Prince Edward Island	3,935 00	3,934 90	0 10	.....
Nova Scotia	53,140 00	53,139 24	0 76	.....
New Brunswick	29,334 00	29,326 20	7 80	.....
Ontario and Quebec	223,915 00	223,106 44	808 56	.....
Manitoba, Saskatchewan, Alberta and N.W.T	677,732 00	677,675 57	56 43	.....
British Columbia	267,120 00	266,578 75	541 25	.....
Yukon	15,000 00	14,984 21	15 79	.....
General	162,500 00	145,828 30	16,671 70	.....
Indian Education	1,437,643 00	1,437,642 03	0 97	.....
Total	3,240,589 00	3,230,745 80	27,401 20	17,558 00

Bonus Vote 563	$ 71,735 42
Retirement Act 1920	2,776 66
Gratuities	480 00

INDIAN TRUST FUND

SHOWING transaction in connection with the Fund during the year ended March 31, 1923.

Service	Debit	Credit
		$ cts.
Balance, Mar. 31, 1922	.....	11,402,577 43
Collections on land sales, timber and stone dues, rents, fines and fees	.....	888,072 62
Interest for year ending Mar. 31, 1923	.....	581,027 31
Legislative grants to supplement the funds	.....	13,000 00
Outstanding cheques 1920-21	.....	162 84
Debit transfer during the year	.....	4,072 87
Expenditure during the year	1,372,700 35	
Balance Mar. 31, 1923	11,516,212 72	
	12,888,913 07	12,888,913 07

Department of Indian Affairs,
Ottawa, June 19, 1923.

REPORT

OF THE

DEPARTMENT OF MINES

FOR THE

FISCAL YEAR ENDING MARCH 31, 1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

No. 2005

To General His Excellency the Right Honourable Lord Byng, of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander-in-Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to lay before Your Excellency, in compliance with 6-7 Edward VII, chapter 29, section 18, the report of the work of the Department of Mines, for the fiscal year ending March 31, 1923.

CHARLES STEWART,
Minister of Mines.

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REPORT

OF THE

DEPARTMENT OF MINES

FOR THE FISCAL YEAR ENDING MARCH 31, 1923

To the Honourable CHARLES STEWART,
Minister of Mines,
Ottawa.

SIR,—I have the honour to transmit the annual report of the Department of Mines for the year ending March 31, 1923.

Included in this report are the statements of the heads of the various branches of the Department containing details of the operations of these branches. It is gratifying to report that in the conduct of these branches very satisfactory service has been given by the heads, who have endeavoured to direct the operations of their branches with economy and a due regard to the expenditure of public money. Owing to the interlocking functions of the Mines Branch and the Geological Survey and the close relationship of the work of these two branches there is occasional danger of overlapping, but this is overcome by more frequent consultation between the heads and a desire on both sides for closer co-operation, which has resulted in increased efficiency without increased expenditure.

With regard to this question of co-operation in investigations and research, successful efforts have been made by this Department for co-operation with other departments of the Dominion government, with provincial organizations, and organizations outside of Canada, especially with the Bureau of Mines and Geological Survey of the United States.

Proposals of co-operation have met with a hearty response in Washington and every suggestion has been received sympathetically and been given generous consideration. I wish especially to record the appreciation of the Department of Mines for the co-operation of Dr. H. Foster Bain, Director of the United States Bureau of Mines, and his technical officers, in the investigation being carried out in connexion with the carbonizing and briquetting of the lignites of southern Saskatchewan. True, the problem is one common to both countries, but it affords an illustration of the feeling that exists between the two countries in matters affecting technical investigation as well as in other lines of activity.

The Department has also continued and extended the practice of consultation with the provincial departments having to do with the administration or investigation of mineral and other natural resources, with the result that the efforts of the Federal organization are co-ordinated with those of the provincial bodies and public funds are expended to the best advantage.

The same general policy of co-operation is being followed with respect to other departments of the Federal service and assistance has been given to and received from the Departments of Interior, Public Works, Justice, Trade and Commerce, National Defence, and others. In accordance with this policy an arrangement has been made with the Departments of Interior and National Defence, both of which are engaged in topographic surveying, whereby a Board of Topographic Surveys and Maps has been created to co-ordinate the mapping activities of the three departments.

During the month of August, 1922, there was held in Brussels at the invitation of the Belgian government the Thirteenth International Geological Congress and the Deputy Minister was designated as the official delegate to represent Canada at this Congress. The Congress was opened by the King of the Belgians in the Palais des Académies on August 10 and sat for 10 days. It was preceded, as well as followed, by a series of excursions, lasting some three weeks, to points of geological interest throughout Belgium. About three hundred and fifty geologists representing forty countries were in attendance and the papers presented dealt with every phase of geology both pure and applied. Every courtesy was shown to the Canadians attending the Congress and although there were no delegates present from the late enemy countries other countries were well represented, and the meeting was a distinct success. An invitation was accepted from the Government of Spain to meet in that country for the Fourteenth Congress in 1925.

Although the Department is concerned mainly with technical investigations into the development and utilization of our mineral resources, we cannot overlook the effect of foreign trade conditions on this development.

Canada's foreign trade in mineral products has been somewhat adversely affected by the application of the Fordney-McComber tariff law in the United States in September, 1922, and during his visit to Europe some effort was made by the Deputy Minister, with co-operation of the Department of Trade and Commerce and the Imperial Mineral Resources Bureau in London, to inquire into an outlet, particularly in Great Britain, for products that were affected by that tariff. Owing to the condition of exchange and the unsettled state of affairs in Europe the results were not very satisfactory, though the information gathered will no doubt be useful as soon as these affairs reach a more settled condition. Lists, however, were obtained of the more important dealers in mineral products in Great Britain and Belgium and it is the intention to supplement these by similar lists from other European countries, so that the information may be supplied to those producers in Canada seeking foreign markets. The situation as it was found to exist in Great Britain with respect to non-metallics has been set forth in a paper prepared by H. S. Spence, of the Mines Branch, and distributed by that branch.

Advantage was also taken by the Deputy Minister of the visit to Great Britain to attend meetings of the Board of Governors of the Imperial Mineral Resources Bureau in London and there has resulted as a consequence a closer co-operation of the Department with the Bureau, which should work to the mutual advantage of both organizations and a better understanding in London of the conditions and opportunities of the mining industry of Canada.

The mineral resources of Canada are among its greatest natural assets, and, owing to our natural climatic conditions and the relatively limited area of the country capable of agricultural development, the mining industry must necessarily occupy a relatively larger place in our economic development than in those countries of the world more fortunately endowed with respect to climate. Mining is not affected by climate and can be carried on irrespective of it. The importance of this industry is indicated by the growing increase in the annual production of minerals per capita, which has risen during thirty-five years from $2.23 to $26.40 a head of population. This curve of production is increasing from year to year until it should ultimately exceed that of any country in the world. The two essentials to increased mineral production are markets and capital. Under present conditions the former is the more important and is necessary to encourage the latter. Owing, however, to the conditions mentioned above, namely adverse tariffs or the conditions of exchange, foreign markets are today difficult for us to enter. It is urgently necessary, therefore, that we should develop home markets by the establishment of industries complementary to the mining industry, so that the products of our mines may be

utilized for manufacture into finished articles. A study of our mineral trade balance will show several instances where the raw material for a manufactured article is produced in this country, but is shipped outside for manufacture and is then sold back to us at many times the value of the material in it. The securing of capital for the development of these complementary industries appears to be more in the general interests of the country than capital for the production of raw material, and until those complementary industries are established in our own country the production from the mine will not increase to a stage bearing a proper relation to what we believe to be our potential resources.

The capital invested in the Canadian mining industry is at present derived from three main sources in about the following proportion, namely: Canada, 54 per cent; United States, 31 per cent; Great Britain, 13 per cent. Only about 2 per cent is provided by other countries than those three.

The large proportion of United States capital in this country is only what might be expected because of the proximity of that country to us, but it would be to our advantage and would result in greater cohesion in the British Empire if a larger proportion of British capital could be persuaded to invest here. To accomplish this it will be necessary to secure the confidence of the British public in mining investments in Canada and to give a greater measure of protection than it has enjoyed in the past.

The recurrence during past years of coal shortages in eastern Canada was responsible for a decision on the part of the Government to set up an organization to study the causes of these shortages, to keep constantly in touch with the fuel situation, and to work out a policy for the permanent solution or reduction of fuel troubles. The Dominion Fuel Board was organized in November for this purpose under the chairmanship of the Deputy Minister of Mines, assisted by certain technical officers from both this Department and the Department of Interior, whose duties touched upon the coal problem. Sittings of the Board were held semi-weekly or weekly and all its members gave generously of their time to the work of the Board. The first duty of the Board was to obtain a clear idea of the various phases of the fuel situation in Canada and having obtained this a programme of investigation was outlined which will be carried out during 1923. The acute fuel area covers the province of Ontario and the western part of Quebec. Owing to the distance from our own coal fields in the west and the apparent inability in the past of the Maritime Province coal fields to produce a sufficient quantity to meet its needs, this area has been dependent almost entirely on the United States coal fields for a fuel supply. Through the efforts of the Board, British coal producers were induced to inquire into the Canadian market, particularly on the St. Lawrence, and it is expected that a considerable quantity of British coal will be shipped to Montreal and other points during the season of 1923. The entry of British coal into the Canadian market will overcome to some extent the unsatisfactory situation in which our acute fuel area found itself of being dependent entirely on one source of fuel supply. In addition, the Board co-operated with the government of Alberta, and coal producers of that province, in endeavouring to introduce Alberta coal into the Ontario markets.

The Joint Peat Committee, organized in 1918, of representatives of the Federal and Ontario governments, concluded its work at the close of the fiscal year and was then disbanded. The object of the Committee was not to manufacture peat fuel for the market, but to develop a process and evolve machinery for the manufacture of peat fuel. The results of this work have been entirely satisfactory; the Committee has shown that a satisfactory fuel can be manufactured on a commercial basis, and that there is a large demand for this fuel. It is, however, not the policy of the Government to go into the manufacture of peat fuel on a commercial basis, but with the results obtained by the Peat Committee private capital should have no hesitation in going into this business.

As shown by the production returns of 1922 the mining industry is recovering from the depression which existed in it during the previous year and a half. The recovery, however, is not uniform, for certain mineral products react more quickly than others to changes in business conditions. The most notable recovery is that of gold, and the gold mines of northern Ontario and the adjacent fields of Quebec have been attracting more attention from the investor as well as the prospector than any other part of Canada.

Some interest has been created by the reported discovery of placer gold at Stag bay in Labrador and although the Department has no first hand knowledge of these reported occurrences of gold it has made public in the form of a brief paper what information it possesses regarding the geological features that have a bearing on the probable existence of placers in that region. This paper is included as an appendix to this report.

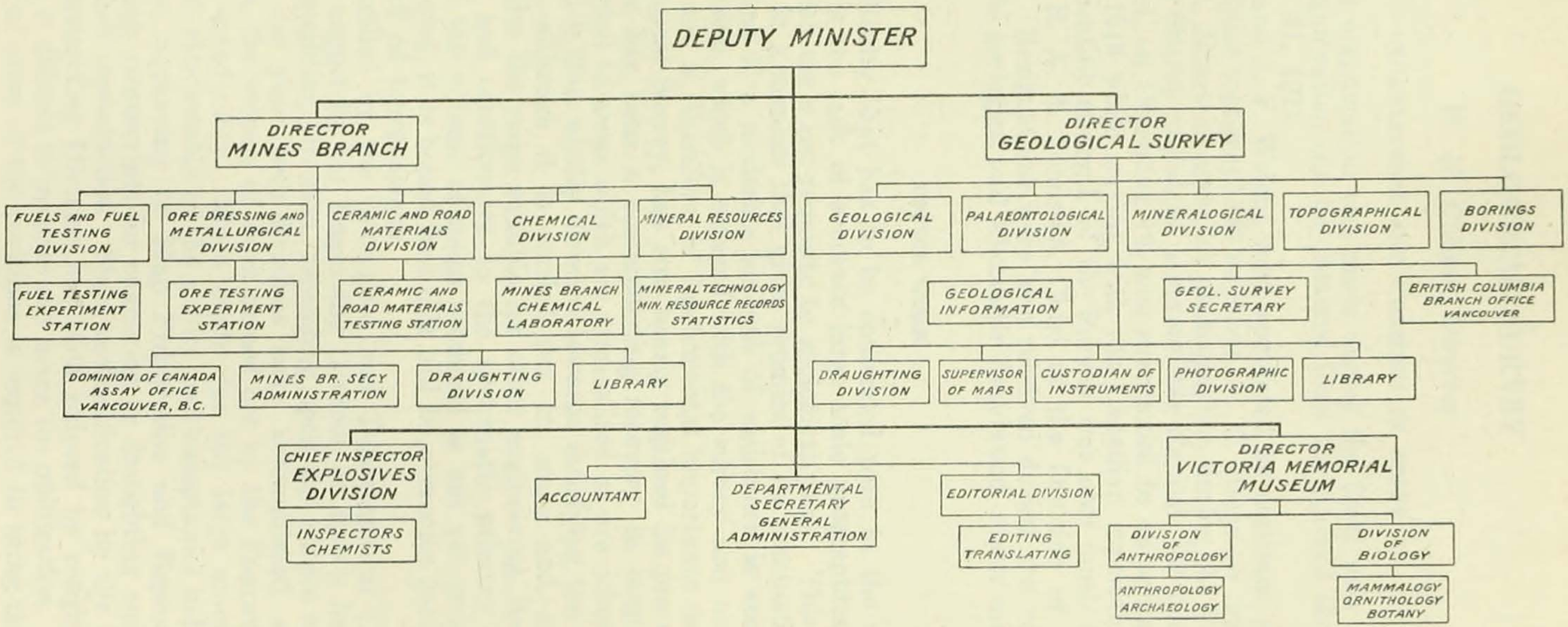
An organization chart of the whole Department is included with this report, which shows at a glance the units into which it is divided and gives an idea of the activities with which it is engaged. Not only has the Department taken on more duties, especially in connexion with the fuel problems of the country, but the demands made upon the services of the technical staff by the public are growing from year to year, so that it is becoming increasingly difficult for the administrative officers to co-ordinate this increased demand with the urgent necessity for economy in government expenditures. Requests for reports and investigations made from all parts of the country cannot all be fully met, nor is it possible to take up all the problems in technological research that confront the mining industry of this country. Selections consequently have to be made of those fields of investigation and research that are most urgent or give promise of the greatest return for the amount of money and effort to be expended. Problems present themselves in the field of fuels, of ore dressing, and metallurgy, which neither our equipment nor our limited staff will allow us to cover, and the annual programme of work in these fields is always greater than can be carried out. If these fields are to be satisfactorily covered it will be necessary to consider plans for the future of the Fuel Testing and Ore Dressing station in Ottawa which in its present condition is an outgrowth of the requirements of the moment and has been added to and extended as the need for a particular investigation arose.

Your obedient servant,

CHARLES CAMSELL,
Deputy Minister.

ORGANIZATION CHART

DEPARTMENT OF MINES



GEOLOGICAL SURVEY

W. H. Collins, Director

ORGANIZATION AND CHANGES IN STAFF

No change in organization was made during the fiscal year 1922-23. A statement of the organization can be obtained from the Annual Report for the year ending March 31, 1921.

C. E. Cairnes and J. F. Wright were appointed as assistant geologists, J. A. Macdonald as junior topographical engineer, A. T. Hinge as map draughtsman, and Miss E. A. James as assistant photographer, during the year.

The Geological Survey sustained a severe loss through the death of J. D. MacKenzie, geologist, on December 16, who succumbed to an operation upon a wound received in 1918 while serving with the Canadian expeditionary forces in France. The scientific strength of the Survey was also much impaired by the resignation of R. A. A. Johnston, Chief of the Division of Mineralogy, owing to ill health. Resignations were also received during the year from W. S. McCann, associate geologist, and Alexander Braidwood, senior map draughtsman.

OFFICE WORK

A principal difficulty that has to be contended with in the work of the Geological Survey is the lack of accurate large scale geographical and topographical maps, which are a pre-requisite to geological work. This difficulty is now being reduced in a manner that gives promise of its elimination within a reasonably short time if a moderate amount of assistance is accorded. The Topographical Division, which is charged with the survey and compilation of base maps needed, and is, therefore, of fundamental importance in the organization of the Geological Survey, has now nearly regained its pre-war effective strength, and there has been a corresponding recovery in output of work. This work is restricted to areas which are mineralized or are otherwise of geological concern, and is thus wholly directed towards satisfying the needs of the Geological Survey, although it is carried out in units and according to standards that render the maps suitable for other engineering, industrial, and scientific purposes and contributory to the systematic primary mapping of Canada. Although the volume of maps produced is not yet great enough to meet the Survey's need, it is hoped that this will be overcome gradually by an increase in the staff of topographers.

The maps compiled by the Geological and Topographical Divisions are either engraved on copper by the Engraving Division or drawn for photolithography, by the Draughting Division, depending upon the nature of the results required. During the year both divisions have accomplished all that was required from them, the volume of work turned out by the Engraving Division being particularly satisfactory. Much credit for the large amount of work accomplished is also attributable to the ability and exceptional industry of Mr. Alexander Dickison, Supervisor of Map Preparation and Reproduction, and his staff, in preparing manuscripts for engraving or draughting and supervising various stages of their reproduction. Since reclassification by the Civil Service Commission the Draughting Division has been reduced by resignations to an extent that renders it difficult to prepare our maps for publication. An improvement in the rating of some of the positions is required to bring the division to its normal strength.

FIELD OPERATIONS

Thirty-nine parties carried on field work in various parts of Canada during the summer of 1922. In large part this work is intended to assist prospectors and explorers in the discovery and development of the mineral resources of the country by mapping the rock formations and investigating and describing the mineral-bearing possibilities of each formation. Increasing attention also is being devoted to investigating and compiling inventories of Canada's resources of coal, iron ore, petroleum, and other minerals. The topographical parties, while engaged in preparing base maps for geological use, mainly in areas containing mineral deposits, are preparing these maps on scales and according to standards which make them contributory to the systematic primary mapping of the country.

Concurrently with these operations that have an immediate economic purpose in sight, an opportunity is afforded to most parties to carry on more purely scientific studies, the results of which each year help to transform the exploration of our mineral resources from a haphazard search to one guided by increasingly well understood principles. It has become recognized, for example, that the great series of granitic intrusions, known as the Coast batholith, that extends the length of British Columbia, was the source of a large share of the metalliferous deposits in the province and that this relationship should be a governing consideration in directing prospecting operations. Opportunities are also afforded to prosecute studies in mineralogy, palæontology, and the other related sciences, and to collect mineral specimens, fossil remains, and other materials for the Victoria Memorial Museum.

GEOLOGICAL FIELD WORK

A brief statement of the work of each party follows.

British Columbia and Yukon

W. E. Cockfield commenced the geographical and geological mapping, for publication, on a scale of 1 inch to 4 miles, of an area of 800 square miles around Whitehorse. The area is part of the eastern margin of the Coast batholith and includes the copper ore deposits at Whitehorse, the gold-silver deposits of Wheaton district, and various other evidences of mineralization. Two seasons of field work will be required to complete the area.

George Hanson continued the geographical and geological exploration of the eastern margin of the Coast batholith between Portland Canal district and the Canadian National railway. He also investigated the petroleum-bearing possibilities of Kitsumgallum and Kispiox valleys. A full report upon this work is given in the Summary Report of the Geological Survey for 1922, Part A.

Victor Dolmage completed a geological reconnaissance of the Pacific coast northward to Prince Rupert. A full account of this work is given in the Summary Report, Part A.

J. D. MacKenzie completed detailed mapping and study of the underground structure of the northern part of the Nanaimo coal basin, on the east side of Vancouver island. An estimate of the coal reserves in this field was also made.

W. A. Johnston and W. L. Uglow were engaged in detailed geological mapping of the placer and drift deposits and of the underlying bedrock formations in Barkerville map-area, Cariboo district. Interest in the Cariboo placers has been quickened by a new discovery of gold placers at Cedar creek. The placers are chiefly of Tertiary age and have been obscured by glacial action and the covering of boulder clay left by the ice-sheet, a condition which renders

prospecting unusually difficult and calls for a careful geological consideration of the preglacial drainage. The bedrock formations are being studied by Dr. Uglow with a view to throwing further light upon the source of the gold in the placers. Preliminary reports upon the work accomplished are given in Part A of the Summary Report.

C. E. Cairnes, who had spent the two preceding seasons in mapping and studying the ore deposits of Coquihalla map-area, near Hope, extended his investigations southward towards the International Boundary into an area that is comparatively little known, but in which a variety of minerals are reported to occur. A full report of this work is published in Part A of the Summary Report.

M. F. Bancroft concluded geological mapping of the Lardeau area, southeast from Revelstoke. The area contains occurrences of silver-lead-zinc minerals, talc, Iceland spar, and other minerals, and also links up the geology of southern British Columbia with that along the main line of the Canadian Pacific railway.

G. A. Young, in co-operation with the British Columbia Department of Mines, commenced a detailed investigation of the iron ore resources of the province. The purpose of the investigation, which will extend over several years, is to ascertain whether there are in the province enough iron ores suitably located and of satisfactory qualities to supply a future iron and steel industry on the Pacific coast, if the other essential requirements for such an industry are available. The question of establishing a Coast iron and steel industry has been under consideration at various times in recent years, and there is need for exact information regarding the basic requirements. During 1922 examination was made of the following deposits:

Kitchener, in Nelson Mining Division.
Sand creek and Bull river, in Fort Steele Mining Division.
Texada island, Redonda island, Seymour inlet, and
Phillips arm, in Nanaimo Mining Division.

F. H. McLearn mapped and investigated in detail the geological succession of Triassic and Cretaceous formations that constitute the foothills of the Rocky mountains on Peace river above Hudson Hope. He also examined in detail the deposits of high-grade coal which occur in the canyon on Peace river just above Hudson Hope. A full account of these coal deposits is given in Part B of the Summary Report for 1922.

Northwest Territories

In 1921 the Geological Survey commenced a systematic mapping and investigation of the petroleum and other mineral-bearing possibilities of the country accessible from Mackenzie river. This work was continued in 1922 by three parties, all of which were engaged in surveying canoe routes and determining the geological succession and structure of the region.

G. S. Hume investigated the country between Norman and the mouth of Carcajou river.

M. Y. Williams worked between Wrigley and the mouth of Great Bear river.

E. J. Whittaker worked between Providence and Simpson. Reports upon this work are published in Part B of the Summary Report for 1922.

Alberta

D. B. Dowling made further study of the geological structure and the potential supplies of water and gas in the "artesian" area southeast from Medicine Hat. He also investigated alleged discoveries of placer gold and

platinum in Smoky and Red Deer rivers, and the underground water resources of a dry area near Peace river. The results of these investigations are given in Part B of the Summary Report.

J. R. Marshall continued systematic geological mapping and investigation of the coal resources of the Kananaskis map-area.

Saskatchewan and Manitoba

F. J. Alcock, assisted by Paul Armstrong, mapped in detail an area of about 50 square miles surrounding and including the Mandy copper ore deposit and the Flinflon gold ore deposit. The occurrences of gold at Elbow lake were also examined. Reports on both areas are published in Part C of the Summary Report for 1922.

J. F. Wright commenced the detailed geological mapping on a scale of 1 inch to 1 mile of the Rice Lake mineral area east of lake Winnipeg. A full report and map appear in Part C of the Summary Report.

Ontario

T. L. Tanton continued geological mapping and investigation of the silver, zinc, iron, and other mineral deposits lying northwest of lake Superior between Port Arthur and Nipigon.

Ellis Thomson completed geological mapping, on a scale of 1 inch to 1 mile, of an area of 400 square miles near Missinaibi, in Michipicoten district. The area contains deposits of pyrite and gold.

Pentti Eskola completed geological mapping of an area of Huronian formations near lake Panache, southwest of Sudbury, and also part of another area of the same formation, north of Blind River. Dr. Eskola is a member of the Geological Survey of Finland, temporarily carrying on research work at the Geophysical Laboratory of the Carnegie Institution, Washington, and advantage of his presence in America has been taken to have him associated during the summer with the Geological Survey, Canada. The geological problems of Finland are very similar to those encountered by Canadian geologists who work in the Precambrian shield, and a practical exchange of ideas between Dr. Eskola and officers of the Geological Survey has been mutually profitable.

H. V. Ellsworth continued a systematic study of the radioactive and rare-element minerals of Canada, which was begun in 1921. These materials, for which new industrial uses are being found, and which are the subject of much present investigation, have been found in Canada chiefly in the crystalline rock formations of eastern Canada. Mr. Ellsworth's work during 1922 was confined to the territory between Parry Sound and Ottawa.

M. E. Wilson continued detailed geological mapping, on a scale of 1 inch to 1 mile, of an area around Madoc, in which fluorspar, talc, gold, pyrite, and other minerals occur. He also investigated talc deposits in southern Quebec in connexion with a systematic study of the talc resources of Canada.

Joseph Keele completed an investigation of the clays and shales of Ontario. A full report upon the clay and shale resources of Ontario, similar to reports already issued for the other provinces of Canada, will shortly be published.

Quebec

Since the discovery of the Dome ore deposit at Porcupine in 1909 the gold mining industry in northeastern Ontario has increased until the production for 1921 was about $18,000,000. Geological investigation has shown fairly conclusively that the gold ore deposits are connected in origin with small intrusions of granitic rocks and are chiefly localized in the vicinity of these intrusives.

Up to 1922 nearly all the important discoveries had been made in Ontario, although apparently the same geological conditions continue eastward into Quebec. In 1922 H. C. Cooke and W. F. James commenced the detailed geological mapping of an area of about 800 square miles in Quebec, south of lake Abitibi and adjacent to the Ontario boundary, with the object of encouraging prospecting for gold, and of providing prospectors with serviceable maps. Active prospecting commenced almost simultaneously, a number of discoveries of gold-bearing veins were made during that summer, and it is expected that the activity will increase in 1923. Reports and maps of the work done by Mr. Cooke and Mr. James are published in Part D of the Summary Report for 1922.

Aleph Anrep surveyed and measured the contents of four peat bogs in the vicinity of Quebec city. This work is in continuation of a systematic survey of the peat resources of Canada. A full report, illustrated with plans of the peat bogs, appears in Part D of the Summary Report.

A. T. McKinnon collected in Ontario, Quebec, and the Maritime Provinces minerals for exhibition in the Victoria Memorial Museum and for use in the preparation of educational collections.

Nova Scotia

E. R. Faribault continued, near Middleton, the systematic geological and geographical survey, on a scale of 1 inch to 1 mile, of Nova Scotia. A detailed investigation and survey was also made of the Nictaux-Torbrook iron range.

W. A. Bell commenced a detailed investigation and mapping of the geological succession and structure of the Pictou coal area, near New Glasgow. He also continued similar work in the Sydney coal area.

C. M. Sternberg collected fossil remains from the Coal Measures at Joggins, for preparation of an exhibit in the Victoria Memorial Museum at Ottawa illustrative of conditions during the Carboniferous period.

TOPOGRAPHICAL DIVISION

W. H. Boyd, Chief Topographical Engineer, reports as follows:

Topographical mapping was carried on by the division during the field season in British Columbia, Alberta, Manitoba, Ontario, Quebec, and New Brunswick. The purpose of this work is to provide accurate and reliable base maps for the various requirements of the Geological Survey. The Survey's activities range from explorations covering wide areas to detailed investigations over very limited areas, and necessitate base maps on scales from 1 inch to 8 miles, to 1 inch to 400 feet. The greater part of the work, however, requires, as a rule, a scale of 1 inch to 1 mile. This scale is considered to be the standard scale. The size of sheet adopted is 15 minutes of latitude and longitude. The field and office work, consequently, has been standardized throughout and results of a high quality are maintained. The contour interval used is 25, 50, or 100 feet, according to the nature of the country.

The mapping requirements of the Geological Survey carry the topographical engineer into all parts of Canada, with its widely varying types of country and its consequent diversities in transportation methods. The scale of the map may be any within the range mentioned above. To meet successfully these varying conditions, the topographical engineer must have a wide experience in topographical work in all types of country, and in working on different map scales. The engineers of this division have been carrying on this specialized map work for many years, and are well qualified to meet any demands that may be made upon them.

It is the aim of the division to maintain a standard of work such that the resulting maps will not only fill the needs of the Geological Survey, but will satisfy the demands of all those who require accurate topographical maps for

their use in mining development, highway construction, and other industrial and engineering operations. The communications received from these various sources indicate that the maps produced by the division have fulfilled these outside requirements.

During the field season of 1922, two parties performed main control for mapping purposes, and seven parties carried on topographical mapping.

MAIN CONTROL FOR TOPOGRAPHICAL MAPPING

S. C. McLean continued the triangulation control in New Brunswick which was commenced last year. This control is based on the primary triangulation of the Geodetic Survey of Canada in that district. It will form a secondary system to that of the Geodetic Survey and is for the direct purpose of controlling the topographic map work in the region between Grand Lake and Moncton. This control established the geographical position of the Minto standard 1-mile sheet, to which later reference is made.

The progress of the work was greatly hampered by conditions of visibility during the day. With the use of suitable station lamps and night observation, this difficulty will be overcome in future and more rapid progress made in the work.

R. C. McDonald carried out the control surveys for geographical map sheets in northern Manitoba. The Air Board had generously agreed to cooperate in this work by providing observation flights and transportation of supplies during the season. At the beginning of the work Mr. McDonald's party and supplies were transported by aeroplane from Wintering lake to Wuskwatim lake. Unfortunately this was the only flying operation that could be carried out, on account of trouble with the machines later on in the season.

The route surveyed was from station 205C on Burntwood river, a little above Wuskwatim lake, established by the Department of the Interior survey in 1920. From this station Burntwood river was followed up to Burntwood lake, thence over the height of land to Shaving point on Churchill river, and up the Churchill to Sisipuk lake where a connexion was made to the second meridian. Returning to Shaving point, the survey was carried down Churchill river to Southern Indian lake. On this stretch of the river, Granville lake was included in the survey.

The work was successfully completed. About 740 miles of subtense traverse was run, using transit and filar micrometer eye-piece. Both banks of the rivers were mapped. In all about 1,500 miles of shoreline was mapped. Wooden posts were left at all points where side routes might possibly be followed at some future date. A control survey for future as well as present mapping requirements has thus been provided for geological and other needs.

TOPOGRAPHICAL MAPPING

A. C. T. Sheppard completed the mapping on Vancouver island, B.C., which was commenced last year. This work, which comprises a total land area of about 330 square miles, extends from the town of Headquarters on the north, to Bowser station on the Esquimalt and Nanaimo railway on the south and includes all the northern part of Nanaimo coal basin. The mapping is standard 1-mile work with a contour interval of 50 feet. This work was rendered difficult in parts owing to the dense timber and undergrowth, and the lack of trails inland, but was successfully completed, and the resulting map will meet the requirements.

J. A. Macdonald, junior topographical engineer, who was appointed to the staff early in the year, was attached to this party and rendered efficient service throughout. Thanks are due to the Geodetic Survey of Canada, whose co-

operation, by executing the main triangulation control for this season's mapping, materially assisted in the progress of the work.

Acknowledgment is also made of the valuable assistance rendered by the Canadian Collieries (Dunsmuir) Ltd., who generously provided Mr. Sheppard information and working plans of their properties for use in the work.

R. Bartlett continued the mapping of the standard 1-mile sheets along Kootenay valley, B.C. This work, which was commenced last season, has been greatly hindered by smoke from forest fires. Sufficient field work, however, has been accomplished for the publication of the two sheets bounded by latitudes 49° 00′ and 49° 15′ and longitude 116° 30′ and 117° 00′.

D. A. Nichols completed the detail mapping, on the scale of 1,000 feet to 1 inch with contour interval of 50 feet, of an area of 25 square miles in the vicinity of Allenby (Copper) mountain, south of Princeton, B.C. This map was made for a detailed geological investigation of the copper ore deposits and should also be of service in mining operations.

W. H. Miller completed the Cadomin standard 1-mile sheet, in Alberta. The boundaries of this sheet are latitudes 53° 00′ and 53° 15′ and longitudes 117° 15′ and 117° 30′. The contour interval used is 100 feet. This sheet includes the Cadomin and Luscar collieries.

E. E. Freeland was engaged in mapping the three standard 1-mile sheets included between latitudes 48° 15′ and 48° 30′ and longitudes 88° 45′ and 89° 30′. These sheets are in Ontario, and include the cities of Fort William and Port Arthur, also Thunder cape and Silver islet. The contour interval used was 50 feet. About 210 square miles, land area, was completed. About 40 square miles remain to be done. The area presents many difficulties that require special study in order that suitable methods may be evolved, which will enable the work to be carried out in the most economical manner.

Mr. Freeland acknowledges the generous co-operation from Mr. F. Harcourt, resident engineer of the Department of Public Works at Port Arthur, who provided copies of their detail plans of the harbours of Port Arthur and Fort William for use in the work, and who also rendered valuable assistance in many other ways.

K. G. Chipman commenced the mapping of the standard 1-mile sheet included between latitudes 48° 45′ and 49° 00′, longitudes 66° 00′ and 66° 15′. This area lies in Gaspe district, Quebec, and includes the Federal Lead and Zinc mine to the south of mount Albert to the north. The contour interval used is 100 feet.

This region presents many difficulties with respect to weather conditions and transportation. Heavy fogs and rain are prevalent. Transportation is wholly by back-packing. In view of these conditions and the inaccessibility of the area, it was considered inadvisable to attempt to maintain the usual high standards in the actual map work. The expense would not have been justified. However, the main control was carried out over the whole area with the usual accuracy, and the surveys that were run were also of the customary grade. It was in the manner of using the plane-table intersection method, for filling in topographical detail, that a certain latitude was allowed. The resulting map will be a very useful type and will fulfil the requirements for a long time to come. Considering the many difficulties met with excellent progress was made. The main control triangulation for the whole sheet was accomplished. This is based on the two stations established by the Geodetic Survey of Canada on mount Albert. Seventy square miles of mapping was completed. Of the whole time spent in the area, one-half was taken up on the main control work; of the remaining half, 60 per cent was lost on account of fogs and rain.

A. G. Haultain completed the standard 1-mile sheet which includes the Minto coal area in New Brunswick. This sheet is included between latitudes

46° 00′ and 46° 15′ and longitudes 66° 00′ and 66° 15′. The contour interval used was 50 feet. As a considerable part of this area has very little relief, is difficult of access, and is covered with thick brush with open patches of heath and marsh, it was found difficult in places to satisfy the standard requirements, especially as regards control. This difficulty was met as satisfactorily as was possible and the resulting map is a good specimen of what can be accomplished in that particular type of country.

Mr. Boyd spent three weeks in August at Matane, Quebec, making a 400-foot detail topographical plan of the harbour and adjacent country. A contour interval of 10 feet was used. S. G. Alexander accompanied the writer and rendered material assistance in the work. This map was made for the Department of Public Works in connexion with their harbour improvement investigation in the locality. Photo copies of the map were sent to the Department of Public Works early in October.

OFFICE WORK

The office work of the division consists in the compilation, assembling, drawing up, and inking-in of the various map sheets. This involves the computation of data of various sorts obtained in the course of field work. Some maps are the result of photographical surveys, others of plane-table methods of survey, and others, combinations of both.

The standard map sheets are compiled on the scale of 3,000 feet to 1 inch. These are drawn up in pencil and inked in by the topographical engineers. The completed manuscript map, when finished, i.e., all inked in, is accompanied by a name sheet, and other miscellaneous data. These are submitted to the Supervisor of Map Preparation and Reproduction, who is responsible for the reproduction of the map.

Besides the standard topographical map work, the division undertakes the compilation of geographical base maps for geological requirements. These may be on the scales of 1 inch or 4 inches to the mile. The necessary control work for these maps is obtained in the field by the division.

J. W. Spence, who was appointed early in the year as a junior topographical engineer, has very materially assisted the office work of the division and has rendered efficient services throughout.

By the efforts of individual members of the division, nearly all the back work has been brought up to date. The accumulation of back work was due to the fact that a large proportion of the staff had been serving with the Canadian Expeditionary Force. The division during their absence was unable to complete the work left unfinished and undertake the new work required from year to year.

It is encouraging to the division to note that by an Order in Council, dated March 17, two new positions of junior topographical engineers have been added to the establishment of the Geological Survey. These positions are necessary for the division to undertake successfully the increasing demands of the Geological Survey for base maps. It is to be hoped that still more assistance will be given to the division in this way, for the staff is still too small to undertake all the work required of it.

MINERALOGICAL DIVISION

Eugene Poitevin, Acting Chief of the Division, reports as follows:

R. A. A. Johnston, who had been absent on sick leave since November, 1921, was superannuated on July 1, after thirty-four years of conscientious and efficient service, first as chemist, later on as mineralogist, and chief of this

division. Since November 1, 1921, Eugene Poitevin, has acted as chief of the division.

FIELD WORK

H. V. Ellsworth spent about four months of the summer in Ontario investigating occurrences of rare minerals. The rare minerals contain radium, uranium, thorium, beryllium, tantalum, columbium, lithium, rubidium, caesium, zirconium, cerium, and other elements of present or potential value. More extended reference is made below to this work.

A. T. McKinnon, mineral collector, visited between July 4 and September 6, a number of localities in Ontario, Quebec, New Brunswick, and Nova Scotia and collected a large quantity of mineral specimens required for the preparation of Educational Collections.

LABORATORY AND OFFICE WORK

During the year just ended the staff of the division had to answer over 600 personal inquiries on the part of visitors seeking mineral determinations or information on matters related to the mining industry. This year the mineral specimens sent to the Geological Survey that could be reported upon without an elaborate chemical or optical examination did not reach this division, being investigated by members of the Geological Division. Even with this helpful arrangement some seven hundred specimens were determined and described as to their economic possibilities in four hundred and fifty-three memoranda which were sent as follows:

Ontario	100	Quebec	142
British Columbia	63	Nova Scotia	33
New Brunswick	40	Manitoba	32
Alberta	30	Saskatchewan	6
Yukon	1	Prince Edward Island	1
Foreign	5		

The above mineralogical investigations were carried on by Eugene Poitevin, who in addition to carrying the administrative work of the division also completed a report entitled " Comparative Study of Some Platiniferous Rocks from Tulameen, B.C., and the Ural Mountains."

H. V. Ellsworth has been engaged in laboratory investigations of the rare element minerals obtained in the course of field work. Considerable time has also been spent on research looking toward improvements in the methods of analysis for these minerals. The age of the Precambrian granites and pegmatites as indicated by the uranium-thorium-lead ratio in radioactive minerals has been accurately determined for several districts in Ontario. This phase of the work is already yielding results of considerable prospective importance in geological correlational work.

M. F. Connor, rock analyst, completed the following analyses:

Rock	Locality
Typical serpentine from serpentine belt	Fifteenmile creek, 1 mile above Kettle Valley railway
Greenstone	Cleve's trail, ½ mile from the mouth of Dewdney creek
Average specimen of Coast Range granite	Portia siding on Kettle Valley railway
Slate	Across slate belt along Kettle Valley railway
Composite sample limestone	One and three-quarters miles above Nictaux falls, 1,800 feet east of Nictaux river
Two samples of feldspars	N. ½ of lot 4, con. vi, McKellar township, Parry Sound, and N. ½ lot 7, con. X, Parry Sound
Zinc blende	Renfrew county, Ontario
Series of four eruptive rocks from Mount Royal	Island of Montreal
Diabase, graphitic granophyre, and altered greywacke	Port Arthur, Ont.

In addition to the above Mr. Connor has also carried on subsidiary work and necessary investigations n connexion with the above results.

MUSEUM OF ECONOMIC MINERALOGY

When the House of Commons was forced to occupy the Victoria Memorial Museum in 1916 the mineral collection of the Geological Survey had to be packed and removed to 227 Sparks street, its present quarters. At that time many minerals were wanted for war purposes and with the generous help of the Exhibition Branch of the Immigration Department, who also supplied specimens and cases, an economic mineral display was prepared in haste. This year all specimens and cases not belonging to the division were returned to their owners and a new and more complete collection will be placed on exhibition. A large number of duplicate specimens were exchanged during the year and some very valuable foreign specimens were obtained in this way.

EDUCATIONAL COLLECTIONS

Three distinct collections for educational purposes are kept in stock and sold to Canadian schools and educational institutions at less than one-half of what they cost. Grade I collection consists of 144 specimens, $2\frac{3}{4}$ by $2\frac{1}{4}$ inches, of Canadian minerals and rocks, systematically arranged in a small oak cabinet containing five drawers. The price of this collection accompanied by two descriptive cards is $35 f.o.b. Ottawa.

Grade II collection consists of 44 specimens, $2\frac{1}{4}$ by $1\frac{3}{4}$ inches, placed in a small oak cabinet obtainable for $12 f.o.b. Ottawa.

Grade III collection is a new one which was prepared for the first time this year. It consists of two drawers containing 44 specimens of rocks, minerals, crystals, and fossils, about $3\frac{1}{2}$ by $2\frac{3}{4}$ inches, intended to illustrate the studies of beginners in geology and mineralogy. A simply worded explanatory pamphlet of twenty-eight pages accompanies the collection, which is sold for $6, f.o.b. Ottawa.

During the past year 21,660 pounds of mineral specimens were collected by A. T. McKinnon for the above purposes and fifty-five collections containing 2,350 specimens were assembled and shipped to educational institutions.

PALÆONTOLOGICAL DIVISION

E. M. Kindle, Chief of the Division, reports as follows on the year's work:

FIELD WORK

The members of the division have carried on field work in upper Peace River valley, Mackenzie basin, New Brunswick, and Nova Scotia.

E. M. Kindle's field work was limited to a short period during which visits were made to three lakes in the Ottawa valley (Clear, White, and Beauchamp), for the purpose of studying their bottom deposits. Bottom samples were obtained from the marls and other types of bottom deposits forming in these lakes and samples from the peat bogs at Alfred, Ontario, together with data bearing on the explanation of the contrasted types of recent lake deposits now forming. Attention was given also to the factors controlling the distribution and range of fossil-bearing and other concretions in the Ottawa valley.

The field work of F. H. McLearn, E. J. Whittaker, and W. A. Bell is referred to on pages 9 and 11.

C. M. Sternberg visited the locality noted for fossil fishes at Scaumenac bay, N.B., and added many good specimens to the Survey's collection of fishes from that locality. The greater part of the season was spent in collecting fossil stumps and tree trunks from the Coal Measures section at Joggins, N.S. The resulting collection is probably the finest which has ever been made of stumps from the Coal Measures.

OFFICE WORK

The usual number of special reports on fossils submitted by members of the staff have been furnished by the division.

A special report on the Pleistocene faunas and stratigraphy of Lake Melville basin was prepared at the request of the Department of Justice.

The fossils in the old Museum exhibition and reference series, which were packed hastily when the Survey was asked to vacate the building during the war, were opened, placed in cabinets, and sorted in a preliminary fashion. The assembling of twenty-five sets of fossils for distribution to educational institutions in Canada is one of the miscellaneous pieces of work done by the division during the year.

In research work good progress has been made along several important lines during the year. Mention may be made of W. A. Bell's monograph on the Windsor fauna of the Nova Scotia Carboniferous which is nearing completion.

Mr. Charles W. Gilmore, of the U.S. National Museum, was engaged by the Survey to spend a couple of months on the dinosaur collection. The more interesting and important dinosaur material in our collections which was ready for study has been described by Mr. Gilmore.

Papers on the Alberta Cretaceous floras by Professor Edward W. Berry, and the crinoids of the Mackenzie River valley by Mr. Frank Springer, are among the important palæontological papers which have been prepared.

EXHIBITS

The museum exhibits of the stratigraphic series of fossils representing southern Ontario were completed during the summer.

The preparation of vertebrate fossils and Coal Measures fossil plants for the Museum exhibits has continued. A start has been made in mounting in the Museum the remarkably fine collection of Coal Measures trees and stumps from the Joggins section in Nova Scotia.

A temporary loan exhibit representing human palæontology was installed in the Museum during the year by Dr. H. M. Ami. The extensive collection of early human implements and art collected by Dr. Ami from the French caves was included in this exhibit.

DONATIONS

The donations received include a large coral *(Columnaria halli)* from Mr. M. E. Maybee, M.P.; a collection of Mazon Creek, Ill., Coal Measures fossils, from Professor Noe; and a collection of recent shells from Mr. P. B. Symes. Mr. C. J. Kettyle of Endako, B.C., presented to the division a unique collection of concretions from Endako. The large collection of concretions representing all the types of these structures found at the Fulwell Hill quarries, England, was presented to the Survey by Dr. George Abbot of England. Mr. R. R. Hibbard donated a collection of bryozoa, and Dr. C. D. Walcott a small collection of Cambrian fossils.

BORINGS DIVISION

E. D. Ingall, Chief of the Borings Division, reports as follows:

In the Department of Mines Act (6 and 7 Edward VII, Chap. 29), the Geological Survey Branch was entrusted with the work of collecting records of boring operations throughout Canada. The main object kept in view is to acquire all possible geological and economic information made available through boring operations, and to examine samples and keep systematic records which shall be available for the guidance of those engaged in current operations and for all boring ventures and geological studies in the future.

The data sought and collected are mostly drillers' records and sets of samples illustrative of the character of the strata penetrated. Drillers' records —at least, the majority of them—would alone be of little use in the study of the geological problems that call for solution wherever search is made for petroleum, natural gas, water, coal, etc. This is because the drillers are seldom interested in the scientific side of the problem, but chiefly in making rapid progress with their contract. Although they are highly skilled mechanics in their own calling, few drillers have had any occasion to study geology and their records represent the observations of non-technical observers couched in their own language. Hence arises the need for the collection of full and accurately taken sets of samples for the interpretation of the drillers' records in the light thrown upon them by the study of the material thus accumulated. This involves microscopic and chemical tests by methods which have been developed for determining the main constituents of the samples and yet are rapid enough to give the information required by the driller for his guidance during the progress of the operations. Since the samples from a 1,000-foot well may amount to as many as 100 or 200, much time is consumed by even the rapid approximate methods mentioned. Such investigation is thus necessarily limited to selected wells of special geological importance. To apply such methods to all borings in Canada would make prohibitive demands in the matter of staff and equipment.

During the year, the work has been continued along these general lines. Many records have been added to the files of the division and many sets of samples from borings have been accumulated.

The Northwest Territories and Yukon Branch of the Department of the Interior continue to send copies of all logs of wells received by them, as a result of their supervision of the boring operations throughout the Northwest provinces.

The Imperial Oil Company have continued to send copies of logs and sets of samples for their borings in the Northwest provinces and thanks are due to Mr. John Ness of the geological staff of that company for his sympathetic aid. Of special interest is the full set of samples received from the deepest well in Canada bored by this company, viz., Twin Butte No. 2, on sec. 20, tp. 3, range XXIX, west of 5th mer., which attained a depth of 4,370 feet.

A number of gas and oil operators in Alberta and Saskatchewan have furnished important additions to our knowledge of the geological problems involved. The study of these problems, however, primarily rests with the Geological Division of the Survey.

Great interest this year has centred on the Coutts district where a number of wells have been drilled. Information or samples have been received from the following companies: Lethbridge Oils, Border Oils, Coutts-Sweetgrass Oils, Oil Lands Exploration Company, and the Sanctuary Oil Company on Pakowki lake. The sets of samples have not all been as complete as could be desired, and it is to be regretted that more companies in this area have not co-operated with the Department.

A few of the other companies with whom communication has been held are the Community Oils, whose geologist, Mr. Roy Lebkicker, has been most helpful in discussing the geology of that area; the West Regent Oil and Development Company, who have been drilling a deep well on sec. 19, tp. 34, range IV, west of 4th mer., to a depth of 3,325 feet; the British Petroleums Company north of Wainwright, Irma Oil Holdings, and the Medicine Hat Petroleums, Limited.

Thanks to the co-operation of Mr. H. F. Ratheram, in charge of the Manitoba government boring at Winnipegosis, a full set of samples has increased our knowledge of the Palæozoic sedimentary series and the full section has been

established down to the underlying Precambrian. This information will be of value as to future borings for gas or oil in the Devonian, Silurian, and Ordovician series that underlie the Cretaceous in the western provinces. These formations have yielded petroleum and natural gas elsewhere on this continent, and they may contain these minerals at other places. It is to be regretted that this Well-drilling Branch of the Department of Public Works in Winnipeg, of which Mr. Ratheram was superintendent, had to be closed down. Being on the ground, the officials were able to collect a large number of logs of wells drilled all over Manitoba, most of which information was furnished to the Borings Division.

Thanks to the co-operation of the officials of the Stony Mountain Oil Company and to D. F. MacDougall of the Mafeking boring, and to others, a better understanding is being acquired of the geology of the zone of country along the eastern escarpment of the Cretaceous in Manitoba and of the Palæozoic underlying the country surrounding lakes Manitoba, Winnipeg, and Winnipegosis.

Our knowledge of the gas and oil fields of the Interlake peninsula is being constantly enlarged through work done in co-operation with Col. Harkness, the Provincial Gas Commissioner. Cores were received from shallow test borings put down on the east bank of Mattagami river above Pike creek, in search for petroleum. Samples received from a deep well near Fort William gave much needed data regarding the character of the flat-lying strata of that region in their extension southerly in depth from their surface outcrops.

Two borings of which complete information was received were put down between Pointe Fortune, Ontario, and Carillon, Quebec, to test the foundation for a dam; and from the Government Experimental Farm boring at Cap Rouge, Que., to which a visit was made to study the conditions for a water supply.

Samples were sent from a boring near Truro, N.S., prosecuted by Messrs. Kent and Kennedy, boring contractors, and from the boring put down by the New Brunswick Cold Storage Company at St. John, N.B. These samples throw further light on the character of the strata in depth. The New Brunswick Gas and Oil Fields Company have continued to send sets of samples from their wells.

An attempt has been made with gratifying results to enlist the help of officials of other departments of the Federal, as well as of the Provincial governments.

Advice is constantly asked for and given in regard to obtaining water by boring. In the Ottawa district, it was found possible to gain information from several new wells, thus enlarging our knowledge of this district. The problems of water supply have been studied in other parts of Canada. A number of well drillers have assisted us in this way by supplying us with data as to shallow wells and have responded by filling in our questionaries. Among others may be mentioned the Canadian Well Supply Company, Messrs. W. T. Crowly, D. Collins, W. H. Mauch, and J. C. Maines, all in the drilling business in Regina, Sask.

Samples and Records Received, 1922

—	Number of samples received	Number of wells from which samples were received	Number of records received
Maritime Provinces	1,134	10	37
Quebec	55	2	6
Ontario	4,578	39	63
Northwest Provinces	2,083	26	177
British Columbia	125	4	5
Total	7,975	81	288

GEOGRAPHICAL AND DRAUGHTING DIVISION

C.-Omer Senécal, Chief of the Division, reports as follows:

No change has taken place in the staff, two vacancies of senior map draughtsmen still remaining to be filled by the Civil Service Commission. The work has been carried on by the Chief of the Division, three principal map draughtsmen, three seniors, one engraver, and two clerks, as outlined in last year's report.

Twenty-two new maps have been published; thirteen are at present in the hands of the King's Printer for lithographing and printing; the engraving on copper of five is completed or in progress; and thirty-six other maps are at various stages of progress in the office.

The general map of northeastern Ontario, on the scale of 1 inch to 8 miles, referred to in last year's report, has been completed and sent out for printing. The base of the map of the adjacent part of western Quebec has also been completed, but awaits data from the geologist, before final preparation for publication can be proceeded with.

Several large-scale geographical maps were compiled for use by geologists in the field, and to serve as bases for future geological maps. These compilations include areas in Timiskaming and Gaspe counties, Quebec.

A special standard stipple for use in representing as uniformly as possible, drift-covered areas on geological maps, has also been engraved on copper.

Owing to illness of the geologist in charge of Nova Scotia serial sheets, little progress was made in the compilation of new surveys of Queens and Shelburne counties; two sheets, however—Vogler Cove, No. 90, and Chester Basin, No. 87, Lunenburg county—have been engraved.

One hundred and twelve zinc-cut and other drawings of sketch maps, text-figures, diagrams, etc., were executed for the illustration of memoirs, bulletins, and reports, and for sundry purposes.

Steady progress was made in the cataloguing of field books and other survey records kept in this division.

Duties in connexion with the Geographic Board of Canada were, as usual, attended to.

A list of maps remaining in the hands of the King's Printer and in the Engraving Division, on March 31, 1923, and a list of maps published during the fiscal year, are appended herewith:

Maps in Hands of King's Printer and in Engraving Division, March 31, 1923

Publication number	Title	Date of requisition	Remarks
1963	Arctic coast of Canada between Darnley bay and Bathurst inlet, Mackenzie district, N.W.T.; scale, 1 inch to 10 miles	Feb. 8, 1923	Can. Arctic Exp., 1913–19
1977	Mackenzie river between Norman and Beaver river, Mackenzie district, N.W.T.; scale, 1 inch to 8 miles	Feb. 28, 1923	Geology Geology
1961	Barkerville area, Cariboo district, B.C.; scale, 1 inch to 1 mile	Aug. 8, 1922	Topography Copper engraving completed
1962	Palliser-Kananaskis area, B.C. and Alta.; scale, 1 inch to 2 miles	Aug. 29, 1922	Topography Copper engraving in progress
1897	Coquihalla area, Yale district, B.C.; scale, 1 inch to 1 mile	Nov. 20, 1921	Topography Copper engraving completed

SESSIONAL PAPER No. 15

Maps in Hands of King's Printer and in Engraving Division, March 31, 1923—*Continued*

Publication Number	Title	Date of requisition	Remarks
1988	Coquihalla area, Yale district, B.C.; scale, 1 inch to 1 mile	Mar. 1, 1923	Geology Copper engraving in progress
1980	Upper Elk and Upper Highwood rivers, B.C. and Alta.; scale, 1/250,000	Mar. 23, 1922	Geology
1933	Fraser River delta, B.C.; scale, 1 inch to 1 mile	Feb. 7, 1922	Topography
1965	Fraser River delta, B.C.; scale, 1 inch to 1 mile	Nov. 20, 1922	Geology
1979	Artesian area, southern Alberta; scale, 1 inch to 6 miles	Feb. 27, 1923	Geology
1978	Part of the Flinflon group of claims, Man. and Sask.; scale, 1 inch to 250 feet	Jan. 26, 1923	Geology
1553	Portions of Algoma, Sudbury, and Timiskaming districts, Ont.; scale, 1 inch to 8 miles	May 1, 1922	Geology
1972	Michipicoten area, Algoma district, Ont.; scale, 1 inch to 1 mile	Feb. 6, 1923	Geology
1982	Sagamité peat bog, Quebec county, Que.; scale, 1 inch to 2,400 feet	Feb. 27, 1923	Economic geology
1983	Breakeyville peat bog, Levis county, Que.; scale, 1 inch to 2,400 feet	Feb. 27, 1923	Economic geology
1984	St. Jean peat bog, Levis county, Que.; scale, 1 inch to 2,400 feet	Feb. 27, 1923	Economic geology
1960	Vogler Cove, sheet No. 90, Lunenburg county, N.S.; scale, 1 inch to 1 mile	Sept. 8, 1922	Geology Copper engraving completed
1981	Chester Basin, sheet No. 87, Lunenburg county, N.S., scale, 1 inch to 1 mile	Jan. 12, 1923	Geology Copper engraving in progress

Maps Published April 1, 1922, to March 31, 1923

Publication number	Title	Remarks
	YUKON TERRITORY	
1937	Rambler Hill area, Mayo district; scale, 1 inch to 2,000 feet.	Geology. In report by W. E. Cockfield, part A, Summary Report, 1921
1940	Mount Cameron area, Mayo district; scale, 1 inch to 2,000 feet	" "
1943	Stand-to Hill area, Mayo district; scale, 1 inch to 2,000 feet.	" "
	MACKENZIE DISTRICT, N.W.T.	
1585	Mackenzie River basin; scale, 1 inch to 50 miles	Geology. Third revised edition. In part B, Summary Report, 1921
1956	Mackenzie river, Great Slave lake to Simpson; scale, 1 inch to 8 miles	Geology. In report by E. J. Whittaker, part B, Summary Report, 1921
1957	Mackenzie river, Simpson to Wrigley; scale, 1 inch to 8 miles	" "
	BRITISH COLUMBIA	
1882	Bridge river (Rexmount to Gull lake), Lillooet district, B.C.; scale, 1/125,000	Geology and topography. In Memoir No. 130, by W. S. McCann
1941	Part of Antler creek, Cariboo district; scale, 1 inch to 1,000 feet	Geology. In report by W. A. Johnston, part A, Summary Report, 1921
1942	Part of Williams creek, Cariboo district; scale, 1 inch to 1,000 feet	" "
1945	North Thompson valley, Joseph creek to Louis creek, Kamloops district; scale, 1 inch to 200 feet	Geology. Preliminary map in report by W. L. Uglow, part A, Summary Report, 1921

Maps Published April 1, 1922, to March 31, 1923—*Continued*

Publication number	Title	Remarks
	ONTARIO	
1926	Kenogami Lake area, Timiskaming district; scale, 1 inch to 1 mile	Geology. In Memoir 131, by H. C Cooke
1927	Round Lake area, Timiskaming district; scale, 1 inch to 1 mile	" "
1932	Larder Lake area, Timiskaming district; scale, 1 inch to ½ mile	" "
1936	Shields, Gaudette, Deroche, and Hodgins townships, Algoma district; scale, 1 inch to 1 mile	Geology. In report by S. Brunton, part D, Summary Report, 1921
1948	Wanapitei Lake area, Sudbury district; scale, 1 inch to 1 mile	Geology. In report by T. T. Quirke, part D, Summary Report, 1921
1951	Verona peat bog, Camden-East and Portland townships, Lennox, Frontenac, and Addington counties; scale, 1 inch to 2,400 feet	Economic geology. In report by A. Anrep, part D, Summary Report, 1921
1952	Twin Cities and William peat bogs, Thunder Bay district; scale, 1 inch to 2,400 feet	Economic geology. In report by A. Anrep, part D, Summary Report, 1921
1953	Arthur peat bog, Paipoonge township, Thunder Bay district; scale, 1 inch to 2,400 feet	" "
1964	Brockville–Mallorytown area, Leeds county; scale, 1 inch to 1 mile	Geology. In Memoir 134, by J. F. Wright
	QUEBEC	
1935	Part of Lemieux township, Gaspe county; scale, 1 inch to 4,000 feet	Geology. In report by F. J. Alcock, part D, Summary Report, 1921
	NEW BRUNSWICK	
1239	Moncton area, Westmorland and Albert counties; scale, $\frac{1}{62,500}$	Geology and topography. In Memoir 129, by W. J. Wright
	NOVA SCOTIA	
1767	Sydney, Cape Breton county; scale, 1 inch to 1 mile	Geology and topography. In Memoir 133, by A. O. Hayes and W. A. Bell. A limited number of copies were printed without geological colours

MAP ENGRAVING DIVISION

Robert Veitch, in charge of the Map Engraving Division, reports as follows:

Maps Completed

Topographical map, Fraser River delta, British Columbia; scale, 1 inch to 1 mile. Engraved for reproduction in three colours, black, blue, and brown. The area covered by this map necessitated the engraving of the map in two sections, six plates in all beirg engraved.

Geological map, Fraser River delta, British Columbia; scale, 1 inch to 1 mile. Two plates engraved.

Topographical map, Barkerville area, Cariboo district, British Columbia; scale, 1 inch to 1 mile. Engraved for reproduction in three colours; three plates engraved.

Topographical map, Palliser-Kananaskis area, British Columbia and Alberta; scale, 1 inch to 2 miles. Engraved for reproduction in three colours; three plates engraved.

Topographical map, Clearwater river and Foghorn creek (North Thompson valley), Kamloops district, British Columbia; scale, 1 inch to 1 mile. Engraved for reproduction in three colours; three plates engraved.

SESSIONAL PAPER No. 15

Geographical and topographical map, Arctic coast of Canada, District of Mackenzie, Northwest Territories, with insets of Bernard harbour, and Mackenzie delta and Arctic coast of Yukon Territory; scale, 1 inch to 10 miles. The area covered by this map necessitated the engraving of the map in two sections; two plates being engraved.

Topographical and geological map, Vogler Cove sheet (Nova Scotia series); scale, 1 inch to 1 mile. One plate engraved.

Topographical and geological map, portions of Algoma, Sudbury, and Timiskaming, Ontario; scale, 1 inch to 8 miles. Final revision to four plates carried out.

Manitoba Postal map. Revision to six plates. This work was executed for Post Office Department.

The laying down of offsets necessary for the engraving of the following geological maps:

Sydney, Cape Breton county, Nova Scotia; offsets from three plates.

Coquihalla River area, Yale, British Columbia; offsets from six plates.

Upper Elk and Upper Highwood rivers, British Columbia and Alberta; offsets from three plates.

Standard "Stipple Plate" prepared. Two offsets laid down.

Maps in Progress

Topographical and geological map, Chester Basin sheet (Nova Scotia series); scale, 1 inch to 1 mile. One plate.

Topographical map, Chu Chua Creek sheet (North Thompson valley), Kamloops district, British Columbia; scale, 1 inch to 1 mile. Three plates.

Topographical map, Louis Creek sheet (North Thompson valley), Kamloops district, British Columbia; scale, 1 inch to 1 mile. Three plates.

PHOTOGRAPHIC DIVISION

G. G. Clarke, Chief Photographer, reports that the following work was done by this division during the year:

	Inches		Inches		Number
Contact prints	4 by 5	to	36 by 48		13,834
Bromide enlargements	4 " 5	"	40 " 72		745
Exposures developed	3¼ " 4¼	"	6½ " 8½		4,678
Dry plate negatives	4 " 5	"	11 " 14		467
Wet plate negatives	8 " 10	"	24 " 30		148
Prints on zinc	11 " 14	"	24 " 36		43
Photostat copies	7 " 11	"	11 " 14		93
Lantern slides	3¼ " 4				831
Photographs and titles mounted					803
Total					21,642

The Geological Survey collection of photographs now comprises 56,000 negatives. These pictures have been accumulated by officers of the Survey chiefly during the last fifty years and are representative of all parts of Canada, and from the United States boundary to the Arctic ocean. They cover an extraordinary range of interesting subjects and many of the older ones have now acquired historical value as records of the progress and development of the country. In order to make this collection more available to the public a set of photographic prints, mounted and classified according to subjects, is being prepared and placed in the Geological Survey library. An arrangement has also been made whereby, as time permits, photographic prints, enlargements, and lantern slides will be made on request from persons outside the Department at about the cost of preparation. Advance photographic copies of maps, photostat reproductions of pages from rare reports, and other work of the kind will also be done. This work for the public will be subordinated to the official photographic work for the Department of Mines and will be executed in an amount dependent upon the resources of the Photographic Division.

A collection of photographs illustrative of physiographic forms in Canada, which was undertaken eight years ago, is being continued. This collection is of particular interest to Canadian universities and other institutions engaged in the study and teaching of physiography, as well as being of considerable popular interest. The collection is on view in the library of the Geological Survey and photographic prints, enlargements, or lantern slides of any of the photographs may be purchased.

GEOLOGICAL INFORMATION AND DISTRIBUTION DIVISION

Wyatt Malcolm, Chief of the Division, reports as follows:

The work of the division consists in giving information regarding the geology and mineral resources of Canada. This information is imparted verbally to men making application in person, and is given out in the form of correspondence, memoranda, and published reports and maps. A large part of the technical correspondence of the Geological Survey is dealt with. Articles were prepared during the year for publication in the Gazette, Industrial Canada, the Canada Year Book, and the Canadian Mining Journal.

It is a matter of great satisfaction to the Geological Survey and to the public that the field work of the Survey, although not as extensive as could be desired on account of the smallness of the staff, has been so directed as to embrace many of the most important areas and thus enable the constant demand for maps and reports on mining districts and centres of prospective mineral possibilities to be met. The foresight of the administration in anticipating the demand for information regarding the geology of that part of Quebec lying east of the gold-producing area of northeastern Ontario has made it possible during the year to place in the hands of prospectors, geologists, and engineers maps and reports that have been declared to be of great monetary value. The report of a discovery of silver minerals on Red lake, Ontario, created a big demand for publications on this area, which, owing to earlier investigations, the Department was able to supply. A report on southern Alberta, with accompanying map and diagrams, was also available for distribution to great numbers whose interest in the oil possibilities of this area was roused by the opening of a commercial field a few miles south of the border.

These are but a few instances of the ways in which demands for information have been met by supplying publications on definite areas. In many cases information has been supplied that has been obtained through the accumulated results of investigations carried on for a series of years or through decades of field work. It is only as a result of long continued field work that clear and positive statements can be made regarding the possibility of obtaining coal in Ontario and Quebec.

The distribution of the publications of the Geological Survey and of the Victoria Memorial Museum is made by this division. During the year 64,458 publications, exclusive of the French editions, were distributed. Of these 13,458 were sent to addresses on the mailing lists and 51,000 were distributed in compliance with written and personal requests for named publications or requests for general or specific information.

LIBRARY

Mrs. F. E. Forsey, Librarian, reports that the library of the Geological Survey now contains over 50,000 volumes, including all the more important scientific and technical publications that deal with the subjects of concern to the Survey and the Museum.

The additions to the Library during the year include:

Volumes received as gifts or exchanges	534
Books purchased	685
Pamphlets and Government publications	2,324
Periodicals subscribed for	166
Periodicals received as exchanges	106
Maps received	241

The number of volumes bound was 411, which included 34 monographs of the Palæontographical Society, and 20 volumes of Paléontologie Française; 103 maps were mounted. The record of readers and visitors is 5,029, of books

borrowed 3,065, and cards added to the catalogue 2,929. A large amount of reference work was done by the library staff, and several bibliographies prepared for other government departments, and individual scientific workers. Frequent calls are received from outside libraries for the loan of publications known to be available only in this library, such as rare governmental reports on geology, foreign technical and scientific publications, and foreign maps. The Library now has almost complete sets of the publications of one hundred and six Geological Surveys, comprising fifty-two in North and South America (including that of Greenland), eight in Australia and New Zealand, twelve in Africa, nine in Asia, and twenty-five in Europe. These, with the transactions and proceedings of most of the important museums and learned societies of the world, make this one of the best equipped and most comprehensive research libraries in Canada.

Considerable progress was made during the year in cataloguing the collections of photographs, maps, and lantern slides; 560 slides on geology, palæontology, and geographical subjects being labelled and catalogued. These have been in constant use during the winter months, not only by members of the Survey staff, but as loans to schools and other institutions. Students, and workers in other departments, frequently consult our maps, and the photograph collection is proving its usefulness, particularly as a source of illustration for bulletins and articles on Canadian resources. As an instance, the "Report of the Royal Commission on Reindeer and Musk-ox Industries in the Arctic Regions" contains no less than thirteen illustrations selected from the photographs filed in the Library.

Among the recent notable additions to the Library are the following:

Journal of the Boston Society of Natural History, complete set of 7 volumes.
Linnean Society of London, Zoology, 34 volumes, 1857–1922.
Geological Society of France, Mémoires:
    Geology, 15 volumes,
    Palæontology, 20 volumes.
Reichenbach's Icones Florae Germanicae et Helveticae, 19 volumes, 1834–1867.
Norske Nordhavs Expedition, 1876–78.
Voyage of the Belgica. 49 parts. 1897–98.
Magazine of Natural History, ed. by Loudon,
    vol. 1–9, 1829–36; ed. by Charlesworth,
    vol. 1–4, 1837–40.
Preussische Geologische Landesanstalt;
    Abhandlungen, 23 volumes,
    Jahrbücher, 17 volumes.
Revista di Antropologia, Rome. 15 volumes.
Geologische Gesellschaft in Wien, Mitteilungen, 8 volumes.
Académie Royale des Sciences et des Lettres, Copenhagen. 26 volumes.
Nyt Magazin for Naturvidenskaberne, Christiania, 67 volumes.
Botanisk Tidsskrift, Danish Botanical Socity, 23 volumes.
Beiträge zur Paläontologie und Geologie Osterreich-Ungarns und des Orients. 13 volumes.
Journal of Botany, British and Foreign, vol. 1–59, 1863–1921.

VICTORIA MEMORIAL MUSEUM

William McInnes, Director

The officers of the Biological Division of the National Museum, which includes mammalogy, ornithology, and botany, and of the Anthropological Division which includes archæology, in addition to the work necessary for the upkeep and improvement of the exhibits in the public exhibition halls, have devoted their time to research work in the various fields indicated by their titles.

R. M. Anderson, besides administering the division as chief, has been engaged in a special investigation of the life histories and habits of the mammals of Quebec, as a part of a larger study of the same subject covering the whole of Canada.

In like manner, Mr. Taverner has given his time to the study of the birds of western Canada, particularly for the purpose of securing data for a memoir on the western birds similar in general character to the work on the eastern birds which has recently been published in a second edition.

M. O. Malte has been making an intensive examination of the flora of the Ottawa region with the object of publishing a detailed botanical description of that region.

Clyde Patch, besides his work as chief taxidermist, has given his attention to Canadian reptiles and amphibians, and the staff of preparators have been continuously employed in the duties of their several positions as set forth in Mr. Anderson's report on the work of the Biological Division.

The work of the Anthropological Division is described in detail in Mr. Sapir's report, which follows on later pages.

The course of free public lectures, on Saturday mornings for children and on Wednesday evenings for adults, was continued during the winter from December to March, under the supervision of Mr. D. B. Dowling and Mr. Harlan I. Smith. The lectures were provided from the staffs of the Department and of the Canadian National Parks Branch of the Department of the Interior, and the lectures were illustrated by stereopticon views; and, through the courtesy of the Department of Trade and Commerce, by moving pictures.

The Saturday morning lectures for children were specially popular, and as they deal with the natural resources of Canada and its natural history and anthropology, are of recognized educational value.

The following lectures were included in the courses, both for adults and children:

Where Animals Go in the Winter Time, by Clyde L. Patch, Victoria Memorial Museum.
The Ups and Downs of a Topographer's Life, by E. E. Freeland, Topographical Division, Geological Survey.
Sight-seeing at Banff and Lake Louise, by M. F. Bancroft, Geological Survey.
The Iroquois as Warrior, Agriculturist, and Hunter, by F. W. Waugh, Victoria Memorial Museum.
Bird Protection in Canada, by Hoyes Lloyd, Canadian National Parks Branch.
Museum Work, by Harlan I. Smith, Victoria Memorial Museum.
A Trip Through The Pas Mineral Belt, by F. J. Alcock, Geological Survey.
Animals of the Past, by Charles M. Sternberg, Geological Survey.
Snakes, by Clyde L. Patch, Victoria Memorial Museum.
The Forests of British Columbia, by M. F. Bancroft, Geological Survey.
Canada's National Playgrounds, by J. B. Harkin, Commissioner of Dominion Parks, Department of the Interior.
The Yukon, by W. E. Cockfield, Geological Survey.
The Ojibwa, a Typical Migratory Hunting Tribe, by F. W. Waugh, Victoria Memorial Museum.
Folk Songs of Canada, by C. M. Barbeau, Victoria Memorial Museum.

The Auditorium was also in great demand by scientific, literary, and other societies, and was occupied on fifty evenings in addition to those taken up by the Museum lecture course.

Although the exhibits in the Museum are continually being augmented and improved, the need for greater space becomes more and more apparent, and until this is provided the exhibits must fall short of our conception of a truly National Museum of Canada.

ANTHROPOLOGICAL DIVISION

ETHNOLOGY AND LINGUISTICS

Exhibits and Research

E. Sapir, Chief of the Division, reports:

The anthropological exhibits in the Victoria Memorial Museum have been added to and to some degree rearranged and relabelled. The need of adequate space for exhibits and of cases for their proper installation, is still greatly felt.

Six scientific field trips were undertaken in the course of the year: a trip by E. Sapir among the Sarcee Indians of Alberta, mainly for linguistic research; another by H. I. Smith, archæological and ethnological, among the Bella Coola Indians of British Columbia; one by C. M. Barbeau for research in French folk-lore, in Gaspe and Bonaventure counties, Quebec; the latter part of F. W. Waugh's trip to the Nascopi Indians of northern Quebec and the Eskimo of the Labrador coast; the continuation of W. J. Wintemberg's archæological exploration of a site near London, Ontario; and the latter part of an ethnological trip by T. F. McIlwraith to the Bella Coola Indians, British Columbia.

E. Sapir spent two months at Sarcee Reserve, near Calgary, Alberta, in a detailed study of the language of the Sarcee Indians, which belongs to the Athabaskan (or Déné) group of languages. A series of mythological and ethnological texts was obtained, also a large body of explanatory grammatical data. A certain amount of ethnological work proper was also done, notably on kinship terms, personal names, and design symbolism. Upwards of two hundred Sarcee and other Plains Indian specimens and a number of photographs supplement similar material obtained by Mr. Jenness during the preceding year. In the office Mr. Sapir continued work on the "Nootka Texts (Tales and Ethnological Narratives)," previously reported on; this volume is now almost complete. A volume of "Tales of the Sarcee Indians (Texts and Translations)," is also being prepared; this will probably be published by the American Ethnological Society. Much work was done on Nootka and Sarcee grammar. In connexion with the latter a paper was read on "Pitch Accent in Sarcee, an Athabaskan Language," before the annual December meeting of the American Anthropological Association, at Cambridge, Mass. Linguistic and ethnologic papers published during the year embrace: "The Fundamental Elements of Northern Yana" (University of California Publications in American Archæology and Ethnology, vol. 13, pp. 215-234); "A Characteristic Penutian Form of Stem" (International Journal of American Linguistics, vol. 2, pp. 58-67); "A Supplementary Note on Saliman and Washo" (*ibid.*, pp. 68-72); and "Vancouver Island Indians" (sketch of Nootka religion in James Hastings' "Encyclopaedia of Religion and Ethics," vol. XII). Two papers of more general cultural interest, "Culture, Genuine and Spurious" and "Culture in New Countries," appeared in The Dalhousie Review for July and October, 1922. A number of linguistic and ethnological papers, to be published by the University of California, the Journal de la Société des Américanistes de Paris, and the International Journal of American Linguistics, were seen through the press.

H. I. Smith spent the summer season in a third visit to the Bella Coola Indian area, continuing the combined archæological and technological work of his previous trips. Supplementary Bella Coola and Carrier specimens were obtained and numerous photographs taken. In the office Mr. Smith continued

work on his reports upon the material culture, past and present, of the Bella Coola and Carrier Indians.

C. M. Barbeau spent four months in investigating the French folk-lore of Gaspe and Bonaventure counties, Quebec. This trip was followed up by library research in New York and Washington for the purpose of finding European parallels to the French folk-songs of Canada. In the course of the year Mr. Barbeau prepared a report on the potlatch among the natives of British Columbia; this was for the use of the Department of Indian Affairs.

D. Jenness spent the summer of 1922 in preparing a second report on the ethnological results obtained by him when serving as ethnologist on the Canadian Arctic Expedition. This report, entitled "The Physical Characteristics of the Copper Eskimos," was sent to press at the end of the year, and will shortly be issued. At the end of December he attended the meetings of the Anthropological Section of the American Association for the Advancement of Science in Cambridge, Mass., and read a paper on "The Origin of the Copper Eskimos." During the latter part of the fiscal year Mr. Jenness was occupied with the revision and editing of a lengthy report on "The Social Life of the Micmac and Malecite Indians," prepared for the department several years ago by W. H. Mechling.

F. W. Waugh spent the period from April 1 to nearly the end of July, 1922, among the Labrador Eskimo who live in and around Nain. From an old woman found at this point who came from Hebron, over 200 miles farther north, and from other informants, a considerable amount of material was obtained on Eskimo foods, handicrafts, folk-lore, ancient religious beliefs, amusements, and a number of other ethnological subjects. Photographs were taken from time to time, illustrating such pursuits as fishing, hunting, house-building, travelling by dog-team, and komatik-making. In the office Mr. Waugh continued work on his collection of over one hundred and seventy-five "Myths and Tales of the Iroquois."

T. F. McIlwraith spent five months investigating the social and religious life of the Bella Coola Indians. He collected information concerning their fluid, but complicated, system of rank and government, which depends largely on the transmission of ancient names. Marriage practices and death rites are closely bound up with this system. Religious beliefs and rituals were investigated, accounts obtained of some thirty ceremonies, and a large number of myths collected. Many of these were of especial value as records of what the Indians believed to be the early history of their people. From August to February Mr. McIlwraith was employed in reducing this material to manuscript form. Field notes were typed out and the whole placed under headings. A cross-index was prepared, so that the material is now available as a basis for further investigations and for publication.

In the course of the year there were published in the Journal of American Folk-Lore (vol. XXXIV, 1921, pp. 223-253, 335-356) the third and fourth instalments of the late J. A. Teit's "Tahltan and Kaska Tales," material originally obtained for the division; these issues complete the mythological part of Mr. Teit's Tahltan and Kaska field data. Two reports on the physical anthropology of the Eskimos are now in press: "The Physical Characteristics of the Western and Copper Eskimos," by D. Jenness, and "The Osteology of the Western and Central Eskimos," by Prof. J. Cameron; both of these are to appear in the reports of the Canadian Arctic Expedition.

Ethnological manuscripts secured during the year embrace:

Two Nootka manuscripts, mostly in text and translation, on puberty and mourning potlatches inherited privileges, death and burial, religious beliefs, and social organization; from Alex. Thomas, Alberni, B.C.

"Notes on the Port Simpson Tsimshian"; from Wm. Beynon, Port Simpson, B.C.

Accessions

Accessions of Ethnological Specimens

Specimens collected in course of field work by members of the Division of Anthropology include:

By E. Sapir:

215 Sarcee specimens from Sarcee Reserve, Alta.
7 Western Cree specimens from Sarcee Reserve.
9 Stoney specimens from Sarcee Reserve.
3 Blackfoot specimens from Sarcee Reserve.
4 Chipewyan specimens from Sarcee Reserve.

By H. I. Smith:

67 Carrier specimens from Bella Coola, B.C.
76 Bella Coola specimens from Bella Coola, B.C.

By F. W. Waugh:

7 Labrador Eskimo specimens from Nain, Labrador (1921–22).
19 Naskopi Indian specimens from Voisey bay (near Nain), Labrador (1921–22).

By T. F. McIlwraith:

41 Bella Coola specimens from Bella Coola, B.C.

There have been received as gifts:
From M. W. Marvin, Atnarko, B.C.:

Tip for salmon spear from camp of Carrier Indians from Ulkatcho, B.C.

From G. S. Hume, Geological Survey, Ottawa:

1 draw-knife for dressing skins from S. Nahanni Indians.

Accessions Received in Physical Anthropology

Gifts include:

Part of skeleton found on lot 17, concession II, London township, Middlesex county, Ontario, presented by Richard Payne, London, Ont., October, 1921.
Part of human skull and lower jaw from a grave on the farm of George Leslie, lot 23, concession III, MT., Hallowell township, Prince Edward county, Ontario, presented by George Leslie, Picton, Ont., Feb. 23, 1923.

Skeletal material obtained in the course of field work in archæology includes:

2 trepanned human skulls from southwest British Columbia, collected by H. I. Smith (see report on Archæology).
Skull from the Lawson village site, Middlesex county, Ont., collected by W. J. Wintemberg.

Photographic Work

Ethnological photographs taken or collected for the Museum by officers connected with the Division of Anthropology:

By E. Sapir:

64 Sarcee photographs from Sarcee Reserve, Alberta.

By H. I. Smith:

193 Bella Coola photographs from Bella Coola, B.C.
60 Carrier photographs from Bella Coola, B.C.
10 Chilcotin photographs from Bella Coola, B.C.
1 Squamish photograph from S.W. British Columbia.

By F. W. Waugh:

9 Montagnais photographs from Labrador.
29 Naskopi photographs from Labrador.
225 Labrador Eskimo photographs from Labrador.

There have been received as gifts from individuals not connected with the Division of Anthropology:

From Capt. J. Bernard:

59 Chukchee and Alaskan Eskimo photographs from E. Siberia and neighbourhood.

From the American Museum of Natural History:

Cinema print of Bella Coola Indian life.

Lantern slides made in the course of the year by the Photographic Division for the Division of Anthropology include:

62 lantern slides illustrating Canadian Indian art.
10 lantern slides illustrating Canadian Indian Art were made for the Department of Education of the Provincial Government of B.C.

FOLK-LORE

C. M. Barbeau, Ethnologist, reports:

The bulk of the folk-lore data in the past year was collected in the course of an extensive summer investigation carried on by C. M. Barbeau in Bonaventure and Gaspe counties, where the French-speaking population is largely of Acadian, Jersey, and Guernsey extraction. A volume of French-Canadian folk-songs, including historical comments and metrical translations, has been nearly completed by E. Sapir and C. M. Barbeau in collaboration.

Folk-lore Collections

(French)

The Barbeau (C. Marius) Collection:
660 song texts collected in Bonaventure and Gaspe counties (Port Daniel, Gascons, Rivière-aux-Renards, etc.).
312 song melodies recorded on the phonograph.
600 (approx.) photographs of people, buildings, etc., in Gaspe and Bonaventure counties.
Various other data on the population and folk-lore of the same counties.

The Massicotte (E.Z.) Collection:
300 (approx.) photographs of buildings, people, ancient designs, and artifacts of Montreal and neighbouring counties.
14 song texts recorded in Montreal.

The Clouthier (Dr. J. E. A.) Collection:
10 manuscript pages of "blason populaire" of L'Islet county

The Lambert (Adélard) Collection:
2 folk-tales.
5 folk beliefs.

The Lanctôt (Gustave) Collection:
2 song texts.

Totals of the year:
676 song texts.
312 phonograph records of song melodies.
900 (approx.) photographs.
2 folk-tales.
The "blason populaire" of L'Islet county.
Various other data.

(English)

The Wintemberg (W. J.) Collection:
37 items (sayings, beliefs, etc.) from the neighbourhood of Buffalo (N.Y.).
Also some data on Canadian negro folk-lore, divination, omens, etc.

ARCHÆOLOGY

Harlan I. Smith, Archæologist, reports:

The archæological exhibits have remained open to the public during the year. About half of them have been rearranged and relabelled.

Accessions

The accessions to the archæological collections are as follows:

Collected by Officers of the Division

Accession 258. Archæological specimens. From Lawson farm site, London township, Middlesex county, Ontario. Collected by W. J. Wintemberg.
Accession 262. Archæological specimens, plaster of Paris moulds of petroglyphs, and photographs. From British Columbia. Collected by Harlan I. Smith.
Accession 264. Archæological specimens. From Bella Coola, B.C. Collected by T. F. McIlwraith.

Gifts

Accession 259. Fragment of Algonkian pottery. From Lobo township, Middlesex county, Ont. Presented by Percy B. Seabrook, Komoka, Ont.
Accession 260. Grooved hammer from Pass creek, Waterton park, Alberta. Presented by G. Bevan, Waterton park, Alberta, through Charles H. Young.
Accession 261. Two carved prongs of elk antler. From shell-heap on west shore of Boundary bay, east side of Point Roberts, Washington. Presented by M. H. Whalen, Point Roberts, Washington, through Harlan I. Smith
Accession 263. Archæological material. From near Eganville, Renfrew county, Ontario. Presented by Dr. James Reeves, Eganville, Ontario.
Accession 265. Fragments of pottery. From prehistoric ruin, Cornfields, Ganado, Arizona. Presented by A. B. Regan, Cornfields, Ganado, Arizona.
Accession 266. Archæological specimens. From near Picton, Prince Edward county, Ontario. Presented by George Leslie, Picton, Ontario, through J. P. Williams, Picton, Ontario.
Accession 267. 2 stone gouges, one from Picton, Prince Edward county, Ontario, the other from Hillier township, Prince Edward county, Ontario. Presented by F. P. Smith, Inspector of Public Schools, Picton, Ontario.
Accession 268. Pottery pipe, found in the ruins of Fort Carleton, Carleton island, St. Lawrence river, opposite Kingston, 1875. Presented by Dr. Alfred J. Horsey, Ottawa, Ontario.

Field Work

Archæological exploration was carried on in British Columbia by Harlan I. Smith and in Ontario by W. J. Wintemberg.

British Columbia. Archæological exploration in British Columbia was conducted by Mr. Smith in the Bella Coola Indian area, in continuation of the work of the past two field seasons, and in the vicinity of Vancouver. Twenty-seven plaster of Paris moulds and three photographs were made of petroglyphs near Bella Coola and some archæological specimens were collected. Four photographs were made of red pictographs, supposedly made in ancient times by Carrier Indians on a rock cliff over a cave at the mouth of the Atnarko valley. The site of the ancient Bella Coola Indian village mentioned by Mackenzie, the first white man to cross Canada, and marked on his map as the "Friendly Village," was located and examined.

South of Vancouver several shell-heaps or middens of ancient Indian villages were visited in order to secure evidence of their antiquity. Village accumulation over 9 feet deep in one of these heaps and a Douglas fir stump, which exhibited over four hundred and twenty rings of annual growth, standing on it, were photographed. This heap is about a mile from the present seashore, but at the time it was formed was probably accessible by sea canoes.

The sculptured human form collected last year was found on this heap, and this year another representing a humpback, from the same heap, was found in the possession of an Indian. This is surpassed in size by a somewhat similar but broken sculpture found at Selma park north of Vancouver. It is the largest unbroken human sculpture in stone known from Canada. Photographs of the front, back, and both sides were taken and negotiations were started for its preservation in this museum or the provincial or British Museum.

Two trepanned human skulls were found in the part of one of these heaps that extends into Washington at Boundary bay and reaches a thickness of about 11 feet. One of these skulls is of a broad type resembling those numerous in the shell-heaps of Port Hammond and Eburne near Vancouver and the skulls of the present Indians of the vicinity. The other is of a very narrow type, of

which a number of skulls were previously found in the large heap at Eburne, but it is not known to be like that of any living tribe. The perforation in the first is large; in both it tapers suddenly from the outer side of the skull wall to the inner side. That the operation was ante mortem is suggested by the fact that of several skulls, similarly perforated, that were previously found at Eburne, one shows a growth of new bone over the opening.

Ontario. The intensive exploration of the Lawson farm site near London, Ontario, begun last year by Mr. Wintemberg, was continued by him from May 18 to July 28. Noteworthy among the finds made were sculptures of the human face. These were on pipe bowls, two of which were of stone and two of pottery. The culture represented by the material found appears to be Neutral-Iroquoian. This exploration is nearly completed.

Office Work

Mr. Smith continued work on his report upon the prehistoric culture of the Bella Coola Indian area. He wrote a report on unique prehistoric carvings from near Vancouver and one on trepanned human skulls from near Vancouver. The album of Prehistoric Canadian Art is in press. Photographic copies of the illustrations in this album and other Canadian art motives were supplied to the Parks Branch of the Department of the Interior, which is co-operating with several government departments in the effort to develop distinctive Canadian manufactures from these motives. The artist of the Parks Branch has already produced a number of designs from this material.

Data regarding the monumental rock sculptures on the island highway near Nanaimo, B.C., and related petroglyphs were supplied to the Parks Branch of the Department of the Interior, the Canadian Historical Society, the British Columbia Historical Society, the Nanaimo Board of Trade, and the Natural History Society of British Columbia. These bodies are co-operating in an effort to conserve these interesting landmarks.

Thirty-four lantern slides of archæological subjects were received from the Photographic Division.

Mr. Wintemberg completed the first draft of his report on the Uren prehistoric village site in Oxford county, Ontario, and began the study of the large collection of pottery from the Roebuck village site, Grenville county, Ontario. His report on "The Eisenhauer Shell-heap, Mahone Bay, Nova Scotia" was sent in for publication.

G. E. Rhoades, for the purpose of studying archæology, gave his time as assistant for the last four months of the year. During this time he studied, rearranged, and relabelled about half of the archæological exhibition.

BIOLOGICAL DIVISION

R. M. Anderson, Chief of the Division, reports:

Since April, 1922, progress has been made in the preparation of exhibits for the Museum halls, although considerable delay has been caused by the difficulty of obtaining proper exhibition cases. Many specimens have been sent in for determination from different parts of the country and numerous requests for information have been answered. Numbers of specimens have also been loaned to schools for the illustration of natural history work, and selected lantern slides for natural history lectures have been loaned extensively to persons engaged in educational or wild life protection and conservation work.

R. M. Anderson, zoologist (mammalia), Chief of the Biological Division, devoted considerable time to the administrative work and correspondence of the division and to the identification and study of the mammal collections. Many notes were added to the card catalogue records of bibliography and field notes

on the distribution and habits of the different species of Canadian mammals. Some time was devoted to editing and proofreading the scientific reports of the Canadian Arctic Expedition, 1913-18, as general editor of these reports for the Arctic Publications Committee. He also represented the Department on the Advisory Board on Wild Life Protection. Leaving Ottawa on August 14, 1922, he proceeded to Grand Cascapedia, Quebec, and from thence went up Cascapedia river to the Federal Zinc and Lead Company's property, where a base camp was established at about 1,800 feet elevation and natural history specimens collected. Later he joined a survey party of the Topographical Division under Mr. Kenneth G. Chipman and remained from August 24 to October 1 in the Lake Ste. Anne and Mount Albert region of Shickshock mountains, Gaspe peninsula, collecting specimens of mammals, birds, and flora, largely above timber-line from 3,500 to 4,000 feet elevation.

The most important addition to the museum collections as a result of this trip is a series of the eastern woodland caribou, which species was previously very poorly represented in the museum. He returned to Ottawa on October 10.

P. A. Taverner, ornithologist, and Hamilton M. Laing, junior zoologist (temporary), did natural history field work in the Okanagan valley, British Columbia, from May 4 to June 21. The time was spent as follows: May 4 to May 19, Osoyoos meadows at head of Osoyoos lake; May 19 to June 15, foot of Vaseaux lake, with June 7 to 10 on the divide between Okanagan and Kettle River valleys, east of Oliver; June 15 to 21, Okanagan Landing. From Okanagan Landing they moved to Comox, on the west coast of Vancouver island, remaining there from June 28 to August 15. Mr. Laing remained at Comox until the last of September. The results of this trip were 880 birds, 8 mammals, about 250 photographs, and about 3 coloured plates of soft parts of birds.

Charles H. Young, senior collector-preparator, left Ottawa May 9 and did field collecting at Waterton Lakes park, in southwestern Alberta, from May 13 to September 30, returning to Ottawa on October 4. His collections numbered 42 birds, 2 nests, 226 mammals, and 500 insects. During the remainder of the year he was occupied in cataloguing and arranging specimens in the Museum.

The following work was done in the preparatory department of the Museum:

Mammal and bird skins prepared for scientific study	283
Mammals, birds, and reptiles prepared for exhibition	53
Large mammal skins tanned (moose, caribou, bear, fox)	42
Plaster reproductions (petroglyphs, skulls, reliefs, cast and coloured)	25
Numerous cast and coloured leaves and grass in wax, plaster exhibition bases, plaster leaf-moulds, material for three bird groups collected.	
Lantern slides, coloured	248
Colour plates and drawings	19
Lettered labels, photographs, and posters	117
Complete skeletons cleaned and mounted	9
Complete skeletons cleaned by maceration	33
Complete skeletons collected	24
Skulls collected	8
Skulls cleaned for study purposes, about	450

M. O. Malte, Chief Botanist of the National Herbarium, devoted the time from the beginning of the fiscal year to the beginning of October to work on the flora of the Ottawa district. Preparatory to the work in the field examination keys were prepared to all the species so far recorded from the Ottawa district. These keys were tested during the season on plants collected in the field, and were found to work satisfactorily. With the assistance of H. A. Quackenbush, who was engaged as temporary field assistant, a total of about 4,250 herbarium specimens were collected, representing about 1,000 species and varieties. Of this number, over 3,000 herbarium specimens will be available for exchange.

After the return from field work, some time was spent on the determination of plants collected by outside botanists and botanical students. Although such work often may absorb considerable time, it is on the whole fruitful and not infrequently brings out botanical facts and data of great interest. The botanical

office, therefore, is anxious to co-operate with and to assist collectors and students of botany from all parts of the Dominion, and particularly those who are willing to donate specimens of interesting species and varieties to the National Herbarium in return for assistance given.

Considerable time was spent on editing and proofreading of botanical papers prepared for the Report of the Canadian Arctic Expedition, 1913-18. The following were sent to the printer, viz.:

Charles W. Lowe: Freshwater Algæ and Freshwater Diatoms (issued Feb. 20, 1923).
John Dearness: Fungi (in galley proof at the end of the fiscal year).

During the year some 1,500 pamphlets and separates were secured for the botanical office from the estates of the late Professor John Macoun and the late Mr. James M. Macoun. These pamphlets and separates, together with many hundreds brought to the office by Mr. Malte, will form the nucleus of an office working-library which, it is hoped, will be steadily increased in the future. A special classification and filing system has been evolved which, together with a proper index, promises to make this office library a very valuable and time-saving one.

Plants received, outside of collections by staff:

	Sheets
Gray Herbarium, Cambridge, Mass	880
R. H. Wetmore, Cambridge, Mass	258
G. Hume, Ottawa	22
Frits Johansen, Ottawa	10
Wm. Herriot, Galt, Ont	59
H. Mousley, Hatley, Que	61
C. E. Gustafsson, Trelleborg, Sweden	90
W. Watson, Toronto, Ont	12
Provincial Museum, Victoria, B.C	14
W. R. Carter, Victoria, B.C	17
Total	1,423

At the end of the fiscal year the National Herbarium included about 105,000 mounted and numbered sheets of vascular plants.

Lantern Slides

Report on Bird Lantern Slide service from March 31, 1922, to April 1, 1923:

During this year loans of slides have been made in thirty-seven instances, the slides being used from one to six times in each case, before a total audience of about 6,500. These loans have been distributed over Canada from Truro, N.S., to Calgary, Alberta, including all intermediate provinces, and do not include slides used by the Canadian National Parks for illustrating special subjects nor a number of lectures given by various members of the staff in the city of Ottawa and elsewhere.

A collection of slides from this division is distributed from the Vancouver office of the Geological Survey. It is heard from time to time that these slides are in great demand and are fully appreciated, but no detailed report on them has been received.

The moving picture films of Jack Miner's geese and the Bonaventure Island bird rocks have been in nearly constant use by lecturers of the Parks Branch and have become so worn that new ones have had to be ordered.

The great lack just now is the filling out and increasing of the slide collection. The slides have been shown numerous times in the same locality and it is desirable that new subjects be furnished. The series is also far from complete and many desirable subjects are still lacking. There are negatives and subjects that should be included as soon as the congestion in the photographic division will allow of the slides being made.

MINES BRANCH

John McLeish, Director

Canada's mineral production in 1922 is estimated as having a value of $183,000,000. The highest production reached in any one year was $227,860,000 in 1920. The value of the exports of mineral products, including those in all stages of manufacture, was in 1922 about $115,000,000, and the value of imports during the same year reached a total of $282,000,000. In 1920 the corresponding exports were valued at $192,000,000 and the corresponding imports at $496,000,000. Thus, notwithstanding apparent enormous mineral resources, Canada is a large importer of many mineral products. Economic conditions and geographic distribution of resources play an important part in this international trade, particularly in respect to coal and iron. Nevertheless, greater knowledge of our own resources and particularly of the processes that must be used to recover from them marketable products should result in increased production and diminished imports.

FUNCTION AND ORGANIZATION

The development of Canada's great natural resources should be carried on under laws and regulations designed and administered to serve best the public interest. Production should be made in a manner and under conditions that will give a maximum recovery of marketable ore, will ensure the conservation of minerals not being immediately exploited, and will afford the maximum protection of health and life. Such assistance as is properly within the function of Government to grant should be given to facilitate the development and supply of markets for those minerals that are susceptible of economic exploitation.

The Mines Branch collects the information, and conducts investigations to promote the efficient development and utilization of mineral resources. This is a broad field that extends from the opening up of mineral deposits to the utilization of their products.

The investigations are carried out under five divisions.

Under the Division of Mineral Resources is included the investigation of mineral resources and their technology with particular reference to production, treatment, character, distribution of output, market conditions, market requirements, buyers' specifications, prices, trade, home consumption, foreign production and competition, etc. The importance of this information is attested by the great demand for the reports of the division. It is proposed to so strengthen the staff of this division that an annual review of the mining industries may be issued.

The present division is a consolidation of three former divisions, and it was only lately that the reorganization could be given full effect. At the close of the year several vacancies still remained unfilled.

The Ore Dressing and Metallurgical Division determines methods and processes applicable to the treatment of ores and carries on research into special problems connected with the treatment of Canadian ores. The test work is done in great detail and usually involves a considerable amount of research. Custom work for the actual recovery of values is not undertaken, but the test work is made on samples ranging from a hundred pounds to car-lots.

The Fuel Testing Division investigates the fuels of Canada with particular reference to their character, heating values, coking and retorting, and gas and oil producing possibilities and the processes for their treatment.

Canada has two great fuel problems which are more or less related. One of these is the utilization of our low-grade fuels such as peat and lignite, the other problem is to provide, in central Canada, a fuel to replace American anthracite. In the study of these problems the Mines Branch is co-operating with the Dominion Fuel Board, of which both the Mines Branch Director and the Chief of Fuel Testing Division are members.

What were formerly two divisions have been united in the Ceramics and Road Materials Division.

The ceramic laboratories are equipped to investigate materials used in the clay industries, to determine their physical and chemical characteristics, their behaviour when subjected to firing, and the purposes for which they may be used.

The road materials laboratory is designed to test samples of road materials. The laboratory tests are necessary for the scientific determination of the physical values of road-making materials. The laboratory also investigates special problems connected with the use of road materials such as methods of improving the binding qualities of gravel and macadam roads, and methods for making more serviceable road surfaces prepared from natural soils.

The Chemical Division is fully equipped for the chemical analysis of rocks, ores, minerals, mineral water, oil, gases, mine air, etc. Much work in the way of chemical and physical examinations is done for other Government departments, and as far as possible for the public. Analytical and assay work for the public is subject to appropriate fees. Important chemical research investigations are also undertaken.

CO-OPERATION WITH OTHER ORGANIZATIONS

The Mines Branch endeavours to co-operate to the fullest extent with Provincial and other Government departments, and with scientific organizations engaged in similar lines of investigations.

REVIEW OF ACTIVITIES

The various investigations undertaken during the year are briefly indicated in the following pages. The Director devoted a great deal of time to the work of the Dominion Fuel Board, of which he is vice-chairman. He also acted as a member of the Advisory Committee to the Department of the Interior on mining regulations. In September a visit was paid in company with the chief of the Ore Dressing Division to the more important ore-milling plants in northern Ontario. The annual conventions of several engineering societies were also attended.

MINERAL RESOURCES DIVISION

A. W. G. Wilson, Chief of the Mineral Resources Division, spent about three months in field work in eastern Canada, Alberta, and British Columbia. The balance of the year was devoted to routine work in the office at Ottawa, and to the completion of the report on the Development of Metallurgical and Chemical Industries in Canada. Mr. Wilson's services in a consulting capacity were requisitioned by the Department of Justice in connexion with a case before the Exchequer Court.

H. Frechette, who was also Acting Chief of the Division of Ceramics and Road Materials, spent a part of the summer season investigating deposits of mineral pigments in Ontario, Quebec, and New Brunswick. Samples from various localities were examined and tested in the laboratory of the Ceramics Division.

L. H. Cole spent his third field season in Saskatchewan surveying and sampling the deposits of natural salts found in alkali lakes. This season's work was confined to some of the larger lakes in the district west of Swift Current. Preliminary examinations were made of a number of other lake deposits in the northern parts of Saskatchewan and Alberta, and in British Columbia.

H. S. Spence completed a report on talc and soapstone in Canada, which was issued in November. He made a general survey of British industries, using non-metallic minerals, and studied the market possibilities for Canadian mineral products. The results of these investigations were published in Memorandum Series No. 6, December, 1922.

A. H. A. Robinson spent most of the year in the office, a part of the time being devoted to the review of the proofs of a report on titanium and to the preparation of maps to accompany this report. A few days were spent in an inspection of a belt of iron formation near Dryden, Ontario.

S. C. Ells spent his sixth season in surveying and sampling the deposits of bituminous sands in northern Alberta. Detailed topographic maps have been prepared covering most of the area in which these deposits occur, many samples have been examined, and available tonnages have been estimated. It is expected that all the necessary mapping will be completed in 1923. The question of further sampling the deposits by drilling is still under consideration.

V. L. Eardley-Wilmot completed a monograph on molybdenum and inspected operations at active properties in Ontario and Quebec producing feldspar, mica, talc, graphite, fluorite, and quartz.

ORE DRESSING AND METALLURGICAL DIVISION

W. B. Timm, Chief of Division, reports that satisfactory progress has been made on the investigations undertaken during the year, and on those carried over from last year.

Additions to the staff included the permanent appointment of J. S. Goddard as junior chemist in November; the temporary appointment of C. L. Dewar as senior laboratory assistant in June, and as engineer, Mines Branch, grade 1, in December; the permanent appointment of L. Lutes as laboratory assistant in October, which position was filled previously by temporary appointments.

INVESTIGATIONS CONDUCTED DURING 1922

The Chief of Division visited a number of the milling, concentration, and metallurgical plants of the west, and northern Ontario, in connexion with the investigations being carried on in the testing laboratories. In connexion with the Eustis and Estelle processes for the production of electrolytic iron from Canadian pyrrhotite and pyrite ores, he and R. J. Traill visited the pilot plant under construction by the Milford Electrolytic Iron Company.

C. S. Parsons conducted the following investigations in the laboratories and in the field:

The concentration of the Flinflon disseminated copper ore of northern Manitoba.
The concentration of antimony ore from lake George, N.B.
The concentration of a copper nickel ore from the Sudbury district, for the Welland Alloy Steel Corporation, Welland, Ont.
The concentration of graphite ore from the Timmins mine, Westport, Ont.
Examination of the gold tailing dumps of Nova Scotia; the recovery of the values in these dumps.

R. K. Carnochan conducted investigations on the following:

The elimination of impurities from the Malagash salt.
The separation of fossil resin from coal, from the Coalmont collieries, B.C.
The wet separation of asbestos from its rock.
The separation of fluorite, calcite, and barite in fluorspar, from Madoc, Ont.
The recovery of the values in gold ore from Bear river, Bedwell sound, Vancouver island.
The concentration of the radioactive minerals from feldspar and quartz from Kearney, Ont.
The recovery of the values in gold ores from the Caribou and Beaver Dam mining districts, Nova Scotia.
The separation of dolomite from magnesite in the Grenville magnesites.

C. L. Dewar conducted investigations on the following:

The recovery of the silver values in the chloridized residues of The Dominion Reduction Company, Cobalt, Ont.
The milling and concentration of the copper-gold ore of the Kitsalas Mountain Copper Company, Usk, B.C.
The use of Canadian manufactured re-agents in the flotation of Canadian ores.

H. C. Mabee, besides allotting and supervising the chemical work of the laboratories and conducting fire assay work, has been making a study of the precious metal values in Canadian pyrrhotite ores and in the concentration and reduction products from such ores.

R. J. Traill during the first part of the year assisted with the chemical work in connexion with the above investigations, and latterly has been conducting an investigation on the application of the Eustis and Estelle processes to the treatment of Canadian pyrrhotite and pyrite ores.

B. P. Coyne and J. S. Goddard assisted with the chemical work in connexion with the above investigations.

NEW EQUIPMENT

An electric muffle furnace was installed for assay work.

A pneumatic flotation unit, consisting of two roughing cells and two cleaning cells, was installed for the larger scale flotation tests.

FUELS AND FUEL TESTING DIVISION

B. F. Haanel, Chief of the Division, reports renewed activity. The technical staff was increased during the year by the appointment of R. E. Gilmore, as superintendent of the Fuel Testing Laboratory. E. S. Malloch was promoted to the position of technical engineer of the division.

R. E. Gilmore reports that 181 samples were analysed in the chemical laboratories during the year, which samples were in addition to the analytical work necessary in the investigations reported below. The analytical work on solid fuels was carried out by J. H. H. Nicolls and Harold Kohl, assisted by C. B. Mohr, and that on liquid fuels by P. V. Rosewarne, assisted by A. A. Swinnerton.

Many of the coal samples were substitute household fuels. With the title of "Characteristics of Different Types of Canadian Household Fuels" a paper under the joint authorship of Messrs. Gilmore, Nicolls, and Kohl was published in the Canadian Chemistry and Metallurgy, February, 1923.

INVESTIGATIONS CONDUCTED BY CHEMICAL STAFF

J. H. H. Nicolls made a special study of the various classifications as applied to Canadian coals. He also carried out preliminary friability or handling quality tests on various household fuels. Time was also taken to prepare for publication a report on "Lignite Carbonization; Continuation and Review of Small Scale Experiments," which work was completed early in 1922. This report under the joint authorship of J. H. H. Nicolls and Harold Kohl is to be found in the Mines Branch report of investigations for the year 1921. Bulletin No. 25, Analyses of Canadian Fuels, viz., part IV, Alberta and the North West Territories, was revised by Mr. Nicolls.

Harold Kohl conducted special carbonization experiments on air-dried peat. These tests were made in the commercial-sized ovens of a hardwood distillation plant. A study of the peat charcoal, gas, and tar oil products was made. Mr. Kohl also co-operated with Mr. Nicolls in the preparation of the lignite carbonization report above mentioned.

A. A. Swinnerton was engaged in special work on oil-shales. Assisted by Mr. Kohl he carried out experiments on the "Ryan" hot oil digestion process for extracting shale oil. A report entitled "Preliminary Report on the Investigation of Oil-shales" was prepared for publication by Mr. Swinnerton, which report covered his special work on oil-shales during the years 1920 and 1921.

P. V. Rosewarne in addition to his regular work on petroleum oils carried out a preliminary survey of the gasoline and lubricating oils as sold in the city of Ottawa. His two papers entitled "Notes on the Burning Quality of Kerosene Oils for Illuminating Purposes" and "The Lubricating Value of Cod Liver Oil" may be found in the Mines Branch report of investigations for the year 1921.

C. B. Mohr assisted during the last six months of 1922 in special work on raw peat. Considerable progress was made on the study of the effect of mechanical and chemical treatment of the wet peat as related to its drying and shrinkage qualities and to the structure and density of the air-dried product.

INVESTIGATIONS AND EXAMINATIONS MADE BY THE CHIEF OF THE DIVISION AND TECHNICAL ENGINEER

B. F. Haanel, Chief Engineer of the Division of Fuels and Fuel Testing, in addition to his regular duties devoted much of his time to the Peat Committee, of which he is secretary, and the Dominion Fuel Board, of which he is a member.

To study the fuel situation he spent about a month in western Canada, and made three trips to the west in connexion with the work of the Lignite Utilization Board to inspect the briquetting plant at Bienfait, and to attend two conferences at Winnipeg. He also visited the Bureau of Mines at Washington in connexion with the Bureau of Mines Lignite Carbonizer, which is to be erected at Bienfait.

Mr. Haanel prepared papers entitled "The Fuel Situation in Canada" and "The Peat Resources of the Central Provinces and Their Utilization for Fuel Purposes," which were read at the general meeting of the Canadian Institute of Mining and Metallurgy, and the meeting of the Ottawa Branch of the Engineering Institute of Canada.

Mr. Haanel spent considerable time in preparing preliminary reports for the Peat Committee and is engaged at present in the preparation of the final report of the Peat Committee.

E. S. Malloch conducted a series of tests at the Fuel Testing Station on the Domestic Hot Water Furnace to determine its efficiency when burning anthracite coal and also to determine the best methods of burning the various fuels which were sold as substitutes for anthracite coal, namely, 72-hour nut coke, pea size anthracite, soft or bituminous coal, egg size gas coke, Welsh anthracite, and peat, and also the following mixtures: egg size gas coke and pea size anthracite, and egg size gas coke and soft or bituminous coal. A report of these tests was prepared by him and published.

Mr. Malloch also attended to the routine work of the structural material laboratory; made eleven calibrations in the pyrometry laboratory; worked in conjunction with the Air Board in designing a method and apparatus for testing the flow of water through radiators of the flying boat type; and attended to the routine work of the office in the absence of Mr. B. F. Haanel.

CERAMICS AND ROAD MATERIALS DIVISION

During the year work in this division was under the direction of Howells Frechette as Acting Chief.

CERAMICS

In addition to his field work, Mr. Frechette visited the kaolin deposits in Amherst township, Papineau district, Quebec. Recent developments in the mine and plant of the Canadian China Clay Company, Ltd., were examined, as well

as the prospect workings of Mr. J. C. Broderick on a near-by lot to the south. In November, advantage was taken of the low water on Gatineau river to re-examine an occurrence of kaolin on the shore of a small island a short distance above Plomb falls.

A series of tests were commenced on Canadian magnesite with a view to extending its use as a refractory material.

Special clay shapes were made for the Ore Dressing Laboratories and the Royal Mint at Ottawa.

ROAD MATERIALS

The investigation of available road materials in Rocky Mountains park was continued by Henri Gauthier. At the end of the 1921 field season there remained 25 miles of the Castle-Windermere road to be examined and sampled. During 1922 this was completed, and successful prospecting was carried on between Massive and Johnson canyon along the Banff-Lake Louise road, where no suitable material for road work had previously been found.

A great deal of information regarding the location and character of the available road materials along the entire mileage of the Banff-Lake Louise and Castle-Windermere highways is now at the disposal of the park officials. The problems of economically improving the binding and the bearing power of certain materials along these roads, in order to secure a satisfactory surface, are now being worked upon in the laboratories.

The investigation on road materials in Nova Scotia, which was commenced in 1920, was continued by R. H. Picher. A study was made of road conditions on all main highways, and a comparison was made of results obtained in road surfacing with different materials under varying conditions. The more important materials, especially bedrock and gravels, were systematically sampled.

A thorough examination along the following main highways was made, and samples were taken of the more important materials found in proximity to them; the Truro-Sydney road; the Halifax-Windsor-Middleton road; the South Shore road from Halifax west to Shag Harbour; the Kentville-Chester road; the Middleton-Bridgewater road; and the Amherst-Parrsboro road. Study was made of a trap rock which is exposed over large areas along the coast of Nova Scotia on the bay of Fundy, and a search was made for gravel for road surfacing south and east of Amherst.

On account of lack of time, some of the main highways remain to be examined, as well as the waste rock from several mines, which is much used locally in road construction.

A series of tests was made in co-operation with Mr. H. H. Scofield, Cornell University, in connexion with the study, by the American Society for Testing Materials, of methods of testing rock for the crushing strength.

An investigation, by laboratory methods, of special problems connected with the use of boulder clay and other natural soils as surfacing materials for the Rocky Mountains Park roads, was also undertaken.

CHEMISTRY DIVISION

The work of the chemical laboratory, under the direction of F. G. Wait, Chief of the Division, has been along the usual lines of special investigations and of routine. During the year, chemical analyses, assays, physical examinations or identifications of 857 samples have been made, of which 114 were for other Government departments.

R. T. Elworthy, in co-operation with the Geological Survey and Professor A. E. Flynn of the Nova Scotia Technical College, Halifax, commenced a study of kerogen in Nova Scotia torbanites. Kerogen is regarded as the oil-forming

constituent of oil-shales and torbanites, which in Nova Scotia are rich in this material. A method of its separation havinb been developed, the study of its chemical properties and origin has accordingly been facilitated. At the request of the Department of Marine and Fisheries he inquired into the cause and possible prevention of smoke fog at Three Rivers, which it is claimed constitutes a danger to navigation on the river at that point.

He constructed and calibrated on behalf of the Mining Lands and Yukon Branch of the Department of Interior, an instrument for rapidly determining the amount of saline matter in waters leaking into oil and gas wells.

He analysed, for the Mineral Resources Division of this branch, a fossil resin from the coal seams at Coalmont, B.C., to ascertain its economic possibilities; and in continuation of the work on natural gas, he studied the production of such chemical products as ethylene, formaldehyde, and carbon black; and made a physical examination of varnishes for the Department of Militia and Defence.

H. A. Leverin's services, as was the case during the preceding three years, were loaned to the Peat Committee, he being employed for special investigations for that body. When this work terminated in 1922 he compiled data for the final report of the Peat Committee. In 1923 he visited various industries which use sodium sulphate, to collect data as to standards of purity and other trade requirements for the utilization of that commodity. This work was in connexion with the investigation of alkali deposits in western Canada, which is now being carried on in the Mineral Resources Division.

R. J. Offord, laboratory assistant, has aided in carrying out much of the experimental part of these investigations.

E. A. Thompson devoted the greater part of his time to a continuation of the study of bentonite, the work upon which is nearing completion. He also made several microscopic examinations of minerals and metals.

Alfred Sadler, in addition to his routine work, examined samples of clays to ascertain their suitability as substitutes for fuller's earth; and also assisted in the work upon bentonite.

James Moran was engaged almost entirely in mine air analyses. During the year, 272 samples have been examined and reported upon.

Mention must be made of the very efficient services rendered by Charles Langley, the glass worker of this branch. He has made and repaired numerous pieces of apparatus, many of special character, without which much of the work would have been seriously delayed, if not made impossible. Other departmental laboratories have been greatly benefited by the work he has done for them.

DOMINION OF CANADA ASSAY OFFICE, VANCOUVER, B.C.

George Middleton, manager of the office, reports the receipt of deposits during the calendar year ended December, 1922, as follows:

There were 1,646 deposits received, melted, assayed, and purchased during the calendar year just ended, an increase of 186 over the previous year and 300 more than in 1920.

The total value of the deposits in 1922 is less than in 1921, due principally to the fact that some of our larger shippers have for various reasons temporarily reduced their gold output. The shortage of water in certain districts during the past season was also a factor in the situation.

A total of 1,710 meltings and 1,710 assays (in quadruplicate) was required in connexion with the purchase and disposal of the bullion, including the melting into large bars of the smaller deposits after purchase, and the assaying of same prior to shipment to the Royal Mint, Ottawa.

The aggregate weight of deposits before melting was 129,891·63 troy ounces and after melting 125,758·41 troy ounces, showing a loss in melting of 3·1821 per cent. The loss in weight by assaying was 27·20 troy ounces, making the weight of bullion after melting and assaying 125,731·21 troy ounces, the average fineness of same being 0·807¾ gold and 0·147½ silver.

The net value of the gold and silver contained in deposits was $2,105,989.64 as follows:

—	Number of deposits	Weight		Net value
		Before melting and assaying	After melting and assaying	
		Troy oz.	Troy oz.	
Bars, Nuggets, and Dust, Amalgam, etc.—				
British Columbia	645	54,950·82	52,235·03	$ 936,607 08
Yukon Territory	485	69,161·19	68,273·78	1,126,701 93
Alaska	8	35·49	34·20	646 53
Siberia	2	218·31	211·33	3,582 08
Dental and Jewelry Scrap—				
British Columbia	440	4,744·65	4,293·73	32,543 18
Alberta	37	498·41	442·56	3,532 58
Saskatchewan	27	277·10	235·18	2,289 36
Manitoba	2	5·66	5·40	86 90
	1,646	129,891·63	125,731·21	$ 2,105,989 64

DRAUGHTING DIVISION

H. E. Baine, Chief Draughtsman, reports that during the fiscal year, eleven maps were completed and published; four maps were completed and are ready for publication, awaiting order to print.

Six maps received during the latter part of the year are now in preparation.

Maps Published During Fiscal Year

532. Deposits of sandstone and gravel available for highway construction between Cardinal and the Quebec boundary; scale, 2 miles to 1 inch. Accompanying report No. 530.
557. Distribution of sandstone in the district of Nelles Corners, Haldimand county, Ont.; scale, 1 mile to 1 inch. Accompanying report No. 555.
558. Distribution of sandstone in the district north of the St. Lawrence river between Kingston and Brockville, Ont.; scale, 3·95 miles to 1 inch. Accompanying report No. 555.
559. Distribution of sandstone in the vicinity of Ottawa, Ont.; scale, 3·95 miles to 1 inch. Accompanying report No. 555.
560. Distribution of sandstone in the vicinity of Montreal, Que.; scale, 3·95 miles to 1 inch. Accompanying report No. 555.
561. Sketch map of quartzite deposits in the townships of Chavigny and Mautaban, Que.; scale, ½ mile to 1 inch. Accompanying report No. 555.
562. Distribution of quartzite in the Kamouraska district, Que.; scale, 7·89 miles to 1 inch. Accompanying report No. 555.
563. Sketch map of the Pilgrim islands, St. Lawrence river, near St. Andre, Kamouraska county, Que.; scale, 2,000 feet to 1 inch. Accompanying report No. 555.
581. Magnetometric map of Orton mine, Hastings county, Ont.; scale, 200 feet to 1 inch (second edition). Accompanying report No. 579.
582. Magnetometric map of Seine Bay titaniferous magnetite range, Rainy River district, Ont.; scale, 400 feet to 1 inch. Accompanying report No. 579.
585. Principal talc and soapstone occurrences in the Eastern Townships, Que.; scale, 8 miles to 1 inch. Accompanying report No. 583.

Maps Ready for Publication

Maps to accompany report on road materials completed during the year and ready for publication, prepared on a scale of 1 mile to 1 inch:

Road materials available for highway construction between Prescott and Gananoque, Ont.
Road materials available for highway construction between Gananoque and Napanee, Ont.
Road materials available for highway construction between Napanee and Port Hope, Ont.
Road materials available for highway construction in the counties of Soulanges and Vaudreuil, Que.; scale, 1 mile to 1 inch.

Maps in Preparation

Map showing molybdenite occurrences in Quebec and the Maritime Provinces; scale, 35 miles to 1 inch.
Map showing molybdenite occurrences in Ontario; scale, 35 miles to 1 inch.
Map showing molybdenite occurrences in British Columbia; scale, 35 miles to 1 inch.
Map showing molybdenite occurrences in Manitoba; scale, 35 miles to 1 inch.
Harricanaw map-area, showing Indian peninsula and Benjamin deposits, Quebec; scale, 10 miles to 1 inch.
Map showing molybdenite occurrences in Atlin Mining division, British Columbia; scale, 35 miles to 1 inch.
Map showing molybdenite occurrences in northern British Columbia; scale, 35 miles to 1 inch.

One hundred and fifty-six page maps, drawings, charts, and flow-sheets were prepared for illustration in the various reports.

Three hundred and fifty negatives and black and white prints were made from the photostat machine.

Two hundred and fifty-eight negatives, black and white, and blue prints, were made from the blue print machine.

Two hundred and sixty halftone blocks and zinc cuts were sent out, received, and filed during the year.

The personnel of the staff at present consists of three senior map draughtsmen (one temporary) and one map draughtsman.

A second attempt was made to secure by examination an appointment to a vacant position of map draughtsman. A number of candidates applied but none was qualified.

DISTRIBUTION OF PUBLICATIONS

During the year 1922, 18,440 publications were distributed by the Distribution Division of the Mines Branch. Of these, 4,008 were sent to applicants, and 14,332 were sent to addresses on the mailing list.

A more comprehensive system of distribution has been effected, the result being increased efficiency.

LIBRARY

Mrs. O. P. R. Ogilvie, Librarian, reports that the growth of the Mines Branch Library for 1922 has far exceeded the shelving accommodations, and that much time has been devoted to the shelving problem.

An intensive effort has been made toward assembling publications on the fuels of the world, with special reference to Canada's fuels, with gratifying results.

ACCESSIONS TO LIBRARY, 1922

Books (by gift)	11
Books (by purchase)	422
Books (bound)	141
Canadian Government documents	336
Foreign documents	1,129
Scientific societies (bulletins, proceedings, and transactions)	409
Pamphlets	161
Trades catalogues	86
Maps	28
Total accessions	2,623

EXPLOSIVES DIVISION

Lt.-Col. G. Ogilvie, Chief Inspector of Explosives

The number of explosives factories now under licence, and including five for the manufacture of fireworks, is sixteen. Three have ceased operations in the course of the year; those of the Canadian Explosives, Ltd., at Windsor Mills, Quebec, for the manufacture of black powder, the Thompson Powder Company, at Deseronto, Ont., and the Jackson Signal Company, at Guelph, Ont. The manufacture of black blasting powder has been transferred from Windsor Mills to the Canadian Explosives Companies' plant at Beloeil, Quebec. The factory at Nobel, Ont., for which a licence is still held, has not recently been in operation. Nevertheless the production of explosives belonging to classes I, II, III, and IV, comprising various commercial blasting explosives, with a relatively small quantity of propellant powders, showed an increase of nearly 10 per cent over that of the previous year. The inspections of the factories did not disclose any serious infraction of the regulations or terms of licence calling for special action. Such minor irregularities as were observed were promptly dealt with by licencees and, indeed, a gratifying feature of these inspections was the marked evidence found of action taken by most manufacturers towards ensuring the compliance of their staffs with both the spirit and letter of the regulations.

Progress has been made in improving the construction of magazines which had been allowed to continue in operation subject to improvements being effected, as well as in the establishment, in a number of cases, of new magazines to replace old ones of not very satisfactory types. One hundred and forty-nine magazines of a permanent or semi-permanent character are now under licence or continuing certificate, and in addition there are in force one hundred and thirty licences covering the use of temporary magazines. The reports of inspections of the division, and those rendered by the Royal Canadian Mounted Police indicate that the conditions of maintenance are steadily improving, although in a few cases it has been found necessary to prosecute licencees for serious breaches of the regulations, or to withhold the renewal of licences.

To a limited extent, stores in which ammunition and a small quantity of explosives may be kept without a licence, have been visited by the inspectors of the division, and have been extensively visited by the Royal Canadian Mounted Police. The regulations in respect to such stores have now been well brought to the attention of dealers and have, on the whole, been observed. Occasionally the instruction given has proved insufficient to obtain compliance with the regulations, continued breaches of which have made it necessary to take legal proceedings. Prosecutions were instituted in nineteen cases and convictions obtained in all.

Four hundred and ninety permits for importation were issued during the year under review.

Eighty-three samples of new explosives were submitted for authorization. Of these, sixty-two were accepted and twenty-one rejected. Explosives amounting in all to over 8,000 pounds were found in a reteriorated, and sometimes dangerous, condition in over twenty different places of storage and were destroyed.

Information was obtained in respect to one hundred and thirty-five accidents with explosives, causing the death of twenty-four persons and injury to one hundred and twenty-nine others during 1922. Of these eight occurred in explosives factories and involved the death of two persons and injuries to

one other. Three of these accidents were subjects of special inquiries and reports. The others were minor accidents, but of some technical interest. No accident occurred in magazines licensed under the Act nor in connexion with the storage of explosives in unlicensed premises, nor in the conveyance.

The other accidents occurring under circumstances not immediately controlled by the Act have been classified according to their circumstances or causes, and are dealt with in the Annual Report of the Explosives Division. They included three explosions in mine magazines whereby four men were killed and four injured. Sixty-five accidents were associated with shot firing, twenty-seven arose from persons playing with detonators, eleven from playing with other explosives, and twenty-one were of a miscellaneous character.

EDITORIAL DIVISION

William McInnes, Editor-in-Chief

The Department issues from time to time reports, memoirs, bulletins, and pamphlets from its various divisions. The publications of the Geological Survey and Victoria Memorial Museum were issued under the supervision of F. Nicolas, Editor; those of the Mines Branch, under the supervision of Samuel Groves, Editor, up to June 30, 1922, when he resigned, and the work was continued by J. J. Bell. In addition to the reports issued in English, some are issued in French, under the supervision of Jobson Paradis, C. E. Rivier, and E. P. Lévesque.

The last General Index of Geological Survey reports was published in 1908. Many requests have been received, both from Canadian and foreign sources, for an Index covering the reports to a later date; and, in view of these insistent requests, the compilation of an Index to cover all Summary and "Separate" reports to the end of 1916 has been commenced, and publication is expected about September, 1923.

The following lists include the publications issued by the Department during the fiscal year 1922-1923, and the French publications distributed during that period:

DEPARTMENT OF MINES

English Publications

No.
1968. *Report of the Department of Mines for the Fiscal Year Ending March 31, 1922;* 48 pages; 4,000 copies; published December 30, 1922.

French Publications

1954. *Rapport du Ministère des Mines pour l'année financière se terminant le 31 mars 1921;* 49 pages; 1,000 copies; published Sept. 24, 1922.
Liste des Publications françaises du Ministère des Mines; 7 pages; 500 copies; published Dec. 12, 1922.

GEOLOGICAL SURVEY

English Publications

1563. Memoir 104. Biological Series 3. *Birds of Eastern Canada.* (Second Edition)—by P. A. Taverner; 290 pages; 50 coloured plates; 68 figures; 15,000 copies; published June 24, 1922.
1898. Memoir 126. Biological Series 4. *A Botanical Exploration of the North Shore of the Gulf of St. Lawrence, including an Annotated List of the Species of Vascular Plants*—by Harold St. John; 130 pages; 6 plates; 2 maps; 2,000 copies; published April 4, 1922.
1938. Bulletin No. 34. Geological Series 41. *Physiography and Glacial Geology of Gaspe Peninsula, Que.*—by A. P. Coleman; 52 pages; 7 plates; 5 figures; 1 map; 2,500 copies; published April 4, 1922.
1944. *Summary Report of the Geological Survey, Department of Mines, for the Calendar Year 1921, Part E;* 61 pages; 3 figures; 3,500 copies; published October 19, 1922.
1946. Bulletin No. 36. Biological Series 8. *Land Snails from the Canadian Rockies*—by S. Stillman Berry; 19 pages; 1 plate; 2,500 copies; published May 15, 1922.
1947. *Summary Report of the Geological Survey, Department of Mines, for the Calendar Year 1921, Part C;* 36 pages; 6 figures; 2 maps; 3,000 copies; published May 17, 1922.
1949. Memoir 130. Geological Series 111. *Geology and Mineral Deposits of the Bridge River Map-area*—by W. S. McCann; 115 pages; 11 plates; 11 figures; 2 maps; 3,000 copies; published Aug. 31, 1922.
1950. Memoir 131. Geological Series 112. *Kenogami, Round, and Larder Lakes Areas, Timiskaming District, Ont.*—by H. C. Cooke; 64 pages; 2 figures; 3 maps; 3,500 copies; published July 13, 1922.
1955. *Summary Report of the Geological Survey, Department of Mines, for the Calendar Year 1921, Part A;* 121 pages; 4 plates; 24 figures; 7 maps; 4,000 copies; published Aug. 11, 1922.
1958. *Summary Report of the Geological Survey, Department of Mines, for the Calender Year 1921, Part D;* 110 pages; 5 plates; 7 figures; 7 maps; 3,500 copies; published July 26, 1922.
1959. *Summary Report of the Geological Survey, Department of Mines, for the Calendar Year 1921, Part B;* 104 pages; 6 plates; 3 figures; 3 maps; 4,000 copies; published Nov. 13, 1922.
1966. Bulletin No. 35. Geological Series 42. *Relationship of the Precambrian (Beltian) Terrain to the Lower Cambrian Strata of Southeastern British Columbia*—by S. J. Schofield; 2 figures; 2,500 copies; published Nov. 24, 1922.
1967. Memoir 132. Geological Series 113. *Geology and Ore Deposits of Salmon River District, B.C.*—S. J. Schofield and G. Hanson; 81 pages; 4 plates; 6 figures; 1 map; 3,000 copies; published Dec. 16, 1922.

974. Memoir 133. Geological Series 114. *The Southern Portion of the Sydney Coal Fields, N.S.*—by A. O. Hayes and W. A. Bell; 108 pages; 3 figures; 1 map; 3,000 copies; published March 31, 1923.

List of Publications of the Geological Survey; 13 pages; 1,000 copies; published October 13, 1922.

Report of the Canadian Arctic Expedition 1913-1918[1]—

Volume III: *Insects*, Title page, Preface, Contents, and Index, for final volume; 10 pages; 3,000 copies; published Jan. 2, 1923.

Volume IV: *Botany*, Part A, *Freshwater Algæ; and Freshwater Diatoms*—by Charles W. Lowe; 53 pages; 5 plates; 3,500 copies; published Mar. 21, 1923.

French Translations

1564. Mémoire 104. No. 3 Série biologique. *Les Oiseaux de l'Est du Canada.* (Second Edition)—by P. A. Taverner; 308 pages; 50 coloured plates; 68 figures; 5,000 copies; published Mar. 31, 1923.

1930. Mémoire 124. No. 106 Série géologique. *La partie nord-est du Labrador et le Nouveau-Québec*—by A. P. Coleman; 82 pages; 10 plates; 3 maps; 1,000 copies; published April 25, 1922.

MINES BRANCH

English Publications

482. *Analysis of Canadian Fuels, Part IV: Alberta and the Northwest Territories* (Second Edition) Bulletin No. 25—by Edgar Stansfield and J. H. H. Nicolls; 77 pages; 4,000 copies; published April 30, 1922.

549. *Structural Materials along the St. Lawrence River, between Prescott, Ont., and Lachine, Que.* Report on—by Joseph Keele and L. Heber Cole; 119 pages; 30 plates; 5 figures; 3 maps; 3,000 copies; published Sept. 27, 1922.

570. *Barium and Strontium in Canada.* Report on—by Hugh S. Spence; 100 pages; 15 plates; 18 figures; 4,000 copies; published June 16, 1922.

579. *Titanium.* Report on—by A. H. A. Robinson; 127 pages; 5 figures; 2 maps; 3,000 copies; published Mar. 31, 1923.

583. *Talc and Soapstone in Canada.* Report on—by Hugh S. Spence; 85 pages; 2 plates; 15 figures; 1 map; 4,000 copies; published Nov. 4, 1922.

Mines Branch Experimental Ore Testing and Research Laboratories, Ottawa. Pamphlet; 4 pages; 2,000 copies; published July 17, 1922.

Instructions for Burning Bituminous Coal, Coke, Welsh Anthracite, and Other Fuels and Fuel Mixtures in Standard House Furnaces. Pamphlet; 7 pages; 100,000 copies; published Jan. 27, 1923.

Directions for Burning Bituminous Coal in Standard House Furnaces. Circular; 1 page; 500,000 copies published Feb. 8, 1923.

List of Mine Operators—

Coal mines in Canada; published Jan. 15, 1923.

Metal mines in Canada; published Jan. 30, 1923.

Metallurgical works in Canada; published Oct. 17, 1922, and Jan. 2, 1923.

French Translations

569. *La production minérale du Canada pour l'année civile 1920.* Annual Report on—by John McLeish; 82 pages; 1,000 copies; published July 31, 1922.

Instructions pour le chauffage au Charbon bitumineux, au Coke, à l'Anthracite gallois, et autres combustibles et mélanges, dans les calorifères. Pamphlet; 7 pages; 30,000 copies; published Feb. 5, 1923.

Instructions pour le chauffage au Charbon bitumineux dans les calorifères. Circular; 1 page; 500,000 copies; published Feb. 8, 1923.

EXPLOSIVES DIVISION

English Publication

7. *Annual Report of the Explosives Division, Department of Mines, for the Calendar 1922;* 20 pages; 2,000 copies; published Mar. 31, 1923.

French Translation

6. *Rapport annuel de la Division des Explosifs, du Ministère des Mines, pour l'année civile 1921;* 18 pages 1,250 copies; published May 30, 1922.

REPORTS IN PROGRESS ON MARCH 31, 1923

At the end of the fiscal year 1922-1923 the Geological Survey had, in the hands of the King's Printer, five English reports and one French translation; the Mines Branch, two English reports, two lists of mine operators, and one French translation.

DISTRIBUTION OF FRENCH PUBLICATIONS

The French publications of the Department of Mines, including those of the Geological Survey, the Mines Branch, and the Explosives Division, are distributed under the supervision of the Editorial Division of the Department. During the fiscal year 1922-1923, there were distributed 4,963 copies in Canada and in foreign countries. Of these, 2,737 were sent in compliance with written or personal requests, and 2,226 copies to the addresses on the mailing lists.

[1]These reports were published under the supervision of R. M. Anderson, Chief, Biological Division

ACCOUNTING DIVISION

ACCOUNTANT'S STATEMENT

P. R. Marshall

The funds available for the work and expenditure of the Department of Mines for the fiscal year ending March 31, 1923, were: -

—	Grant	Expenditure	
		Amount	Total
	$ cts.	$ cts.	$ cts.
DEPARTMENT—			
Amounts voted by Parliament	255,067 92		
Lignite Utilization Board		152,500 00	
Civil list salaries		55,884 67	
Expenses of Explosives Division		8,492 56	
Grant to Imperial Mineral Resources Bureau		7,300 00	
Civil Government contingencies		6,510 90	
Grant to Canadian Institute of Mining and Metallurgy		3,000 00	
Provisional bonus allowance		2,441 25	
Allowance for Private Secretary		600 00	
Expenditure chargeable to Superannuation Fund No. 4, Retirement Act		466 67	
			237,196 05
Balance unexpended and lapsed			17,871 87
GEOLOGICAL SURVEY—			
Amounts voted by Parliament	631,671 53		
Advances unaccounted for 1921–22	1,900 00		
Civil list salaries		259,509 40	
Explorations, surveys, and investigations		172,306 37	
Publication of reports and maps		46,599 31	
Wages of temporary employees		25,436 97	
Sundry printing and stationery		21,050 93	
Provisional bonus allowance		11,480 32	
Miscellaneous		4,469 73	
Instruments and repairs		2,362 71	
Photographic supplies		1,844 25	
Laboratory		1,785 33	
Specimens for Museum		1,219 97	
Miscellaneous gratuities		600 00	
			548,665 29
Balance unexpended and lapsed			84,906 24
MINES BRANCH—			
Amounts voted by Parliament	331,054 80		
Advances unaccounted for 1921–22	100 00		
Civil list salaries		124,118 04	
Investigation of mineral resources		41,912 73	
Expenses of fuel testing plant and laboratory		33,027 98	
Expenses of ore dressing and metallurgical laboratory		26,798 83	
Peat fuel investigations		17,160 21	
Publication of reports and maps		11,680 39	
Wages of temporary employees		10,585 84	
Sundry printing and stationery		9,613 34	
Provisional bonus allowance		6,879 60	
Chemical laboratory		3,142 57	
Miscellaneous		2,739 80	
Expenses of Dominion Fuel Board		246 51	
Miscellaneous gratuities		206 80	
Advances 1922–23 to be accounted for 1923–24		1,010 40	
			289,123 04
Balance unexpended and lapsed			42,031 76
Forward	1,219,794 25		1,219,794 25

ACCOUNTANT'S STATEMENT—*Continued*

—	Grant	Expenditure	
		Amount	Total
	$ cts.	$ cts.	$ cts.
Forward	1,219,794 25		1,219,794 25
DOMINION OF CANADA ASSAY OFFICE—			
Amounts voted by Parliament	26,786 00		
Earnings	2,255 44		
Salaries of staff		18,180 00	
Assayers' supplies		1,266 50	
Fuel, power, and light		1,182 63	
Contingencies		928 27	
Provisional bonus allowance		786 00	
Premium on bonds		555 00	
Electric Burglar Alarm service		360 00	
			23,258 40
Balance unexpended and lapsed			5,783 04
	1,248,835 69		1,248,835 69

Summary

—	Grant	Expenditure	Grant not used
	$ cts.	$ cts.	$ cts.
Civil Government salaries	508,162 50	440,112 11	68,050 39
Department	188,940 00	177,803 46	11,136 54
Geological Survey	322,000 00	275,076 86	46,923 14
Mines Branch	176,500 00	157,800 20	18,699 80
Assay Office $ 26,000 00	28,255 44	22,472 40	5,783 04
Earnings 2,255 44			
Provisional bonus allowance	21,587 17	21,587 17	
Miscellaneous gratuities	806 80	806 80	
Expenditure chargeable to Superannuation Fund No. 4, Retirement Act	466 67	466 67	
Increases due to re-classification	117 11	117 11	
	1,246,835 69	1,096,242 78	150,592 91
Advances unaccounted for 1921–22 accounted for in 1922–23	2,000 00	2,000 00	
	1,248,835 69	1,098,242 78	150,592 91

Casual Revenue

Sales of school collections, equipment, explosives permits, etc	$ 3,725 92
Revenue from fines for violations of Explosives Act	191 79
Refunds, adjustment of Provisional bonus allowance	50 43
Adjustment of claims for equipment lost	43 80
	$ 4,011 94

APPENDIX

REPORTED DISCOVERY OF PLACER GOLD IN LABRADOR

(Statement Issued by the Geological Survey, Ottawa, May 7, 1923. Reprinted by Request of Joint Committee of both Houses on the Printing of Parliament)

As the Geological Survey is receiving from Canadian prospectors and investors many inquiries for information regarding the reported discovery of placer gold near Stag bay, Labrador, it has been decided to make public what information it possesses regarding the reported discoveries and the geological features that have a bearing on the probable existence of placers. The claims that have been staked have been recorded with the Government of Newfoundland; consequently the Geological Survey of Canada has made no field investigations in the area since the discovery was reported, and has no first-hand knowledge of the alleged placers. During the past, however, officers of the Survey and geologists from other institutions have explored the Labrador coast, and a good deal is known about its geological features.

Stag bay lies 30 or 40 miles west of cape Harrison, north of Hamilton inlet. It is described by A. S. Packard, who entered it, as a wide sound bordered by lofty, terraced hills. Robert Bell[1] made observations at points along the Labrador coast; A. P. Low[2] along the coast and on lake Melville; and more recently—1921—E. M. Kindle on lake Melville and along the coast south of Hamilton inlet. Our knowledge of the geology of the southern part of the coast is based largely on work done by A. S. Packard[3] and by R. A. Daly[4], and of the northern part of the coast by A. P. Coleman[5].

The existence and preservation of placers are affected in large measure by glaciation, for the reason that glaciation, or ice action, tended to carry away and destroy any placers that accumulated before the Ice age, and there has not been time enough since then for new ones to form. Most geologists believe that all except the elevated parts of the very northern stretch of the Labrador coast was intensely glaciated by a continental ice-sheet that moved seaward in a direction at right angles to the general northwest trend of the coast.

Dr. Coleman, who spent parts of two summers in a study of the northern part of Labrador and the adjacent part of Quebec, after briefly describing the plateau of the Canadian shield, says:

> "The loftier parts of this tableland rise near the coast from mount Thoresby (2,733 feet) near Nain, to Ryan bay near Eclipse harbour (four peaks said to be from 5,000 to 6,000 feet in height), with a length of about 230 miles from southeast to northwest. It must not be supposed, however, that these higher points form a distinct range of mountains. In most cases they are merely a mountainous fringe on the seaward side of a somewhat narrow tableland, and they are broken up into shorter or longer sections separated by lower areas. From southeast to northwest may be seen the Kiglapaits, north of mount Thoresby; to Kaumajets, near Okak and Mugford; and the highest part of all, named the Torngats by Daly and others, extending from Saglek bay to Ryan bay, with a length of nearly 100 miles."

Most of Dr. Coleman's work was devoted to the central part of the mountains known as the Torngats. With regard to glaciation of the northern part of the coast he writes:

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[1] Geol. Surv., Can., Rept. of Prog., 1882-83-84, part DD. Scottish Geog. Mag., vol. II, 1895.
[2] Geol. Surv., Can., Ann. Rept., vol. VIII, pt. L.
[3] "Observations on the Glacial Phenomena of Labrador and Maine," Boston Soc. Nat. Hist., Mems., vol. I. "The Labrador Coast, a Journal of Two Summer Cruises in that Region, 1891."
[4] "Geology of Northeast Coast of Labrador;" Mus. of Comp. Zool., Bull., vol. 38.
[5] Geol. Surv., Can. Mem. 124.

"The evidence of glacial action is absent from a considerable area in northeastern Labrador, since the higher tableland and the tops of the mountains which fringe it on the Atlantic side show no marks of having been overridden by an ice-sheet. The area left unglaciated cannot yet be exactly outlined owing to the absence of observations over most of the region; but it is known that along a coastal belt extending from Saglek to Komaktorvik, a distance of 80 miles, there is no appearance of ice action above the valleys. At Nachvak this unglaciated condition is known to reach at least 50 miles inland, giving a 'driftless area' of perhaps 3,000 or 4,000 square miles. The tops of the Kiglapait and Kaumajet mountains to the south and of the Four Peaks to the north, as well as many other isolated peaks, probably rose as nunataks above the surrounding ice.

"The unglaciated character of the higher levels at Nachvak and northward was noted by Lieber and Bell, who remark upon the jagged character of the mountains as incompatible with the passage over them of an ice-sheet. Daly goes more fully into the question and reaches the conclusion that Nachvak glacial ice did not reach higher than 2,100 feet above sea-level. The idea suggested by these writers that the Labrador ice-sheet made its way through depressions in the tableland, such as Nachvak fiord, and reached the Atlantic, is not borne out by the writer's observations.

"Though the northeastern peninsula of Labrador was not covered by the great ice-sheet, its depressions were occupied during the Ice age by long and large glaciers which scoured out the valleys and in many places left deposits of boulder clay and moraines. This work seems to have been done, in part at least, toward the end of the Glacial period, as shown by the unweathered character of some of the deposits and of the lower glaciated surfaces; whereas old-looking, strongly indurated till in other places was probably laid down earlier.

"The small existing glaciers may be looked on as remnants of these far greater valley glaciers.

"South of the unglaciated area mentioned above, there can be no doubt that the continental ice-sheet reached the sea, since even hill tops present moutonnées forms and erratic blocks, though striated surfaces are seldom seen except on the lower levels. Distinct moraines and boulder clay are not common, probably because the region was one of erosion rather than deposit, but morainic material and till may have been deposited off what is now the coast on the submerged continental shelf."

A. S. Packard says that the "whole Labrador plateau has been moulded by ice to a height at least of 2,500 feet above the level of the sea . . . Only at one point near the northern termination of the peninsula at cape Chudleigh have the mountains by their attitude escaped the rounding and remodelling action of glaciers." He and others point to the rounded character of the hills, the roches moutonnées, the glacial striæ, the lunoid markings, and the transported boulders as convincing evidence of glaciation.

R. A. Daly, in describing the coast from Belle Isle to Paul island, which includes Stag bay, says that "from any commanding hill on island or mainland, the eye ranges far and wide over a surface showing everywhere the evidence of universal and profound glaciation. Unobscured by forest, soil, or thick drift, and singularly expanded because of the crystalline clearness of the atmosphere, the view typifies that which may be had in the Laurentian highlands of Canada or in the Archæan of the Scottish highlands. It is a great wilderness of innumerable, rounded, ice-worn hummocks, generally gneissic in composition. Among the roches moutonnées lie equally countless ponds and bogs connected by the small streams of a most disordered drainage."

Packard, Daly, Coleman, and Kindle call attention to the paucity of glacial deposits other than boulders. The area was evidently, as Coleman states, one of erosion rather than deposition and the great bulk of the loose material resulting from pre-Glacial weathering may have been swept, as suggested, to the sea and deposited on the submerged continental shelf.

It is thus seen that conditions have been produced in that part of Labrador extending from the south end to much farther north than Stag bay, similar to those existing in northern Ontario. Both are underlain by Precambrian rocks and both have been subjected to intense glaciation. Geologists and prospectors have learned to look upon northern Ontario as unfavourable ground for prospecting for placers. Placers that may have existed before the Ice age are believed to have been destroyed and scattered by the eroding action of the great mass of moving ice.

A few placers have been formed since the Ice age, but they have never paid to work because the gold is scattered through the glacial drift and has been only slightly concentrated in the Recent gravels. It is very unlikely that placers have been formed in Labrador since the Ice age. As has been pointed out, the coast of Labrador, except the very northern part, has been swept clean of nearly all unconsolidated material, pre-Glacial and Glacial, except boulders; there is little likelihood, therefore, of placers having been formed by a re-sorting of glacial debris, and sufficient time has not elapsed since glaciation for the breaking down of great thicknesses of rock necessary for the formation of new placers.

Rich placers do occur in some glaciated regions, for example in the Cariboo district of British Columbia, but the Labrador region was more intensely glaciated than the Cariboo. Cariboo is a mountainous region with deep and narrow valleys and the ice-sheet could not move freely because of these deep valleys and because it was hemmed in by mountains. In Labrador the ice could move freely and its scouring action was pronounced. Although it cannot be said that placers will not be found in Labrador, the chances for the occurrence of rich ones seem very remote.

In view of the above some of the statements that have appeared in advertisements of the reported Labrador placers seem improbable. It has been implied, for example, that there may be considerable areas of gravel, 21 feet thick, carrying $100 in gold per cubic yard. Neither does the evidence of the actual discovery of placer gold, as given in advertisements by promoting companies, appear satisfactory. It is apparently based mainly on a statement claimed, in advertisements, to have been made by Ledoux and Company, New York, concerning an assay of a sample of gold-bearing gravel from Labrador. Correspondence, however, with Ledoux and Company, has elicited the information that they had been unable to find any record of such a sample having been submitted to them and that no such sample had been submitted to them either by H. C. Bellew or Richard W. Edwards.

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REPORT

OF THE

MINISTER OF AGRICULTURE

FOR THE

DOMINION OF CANADA

FOR THE

YEAR ENDED MARCH 31, 1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

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REPORT

OF THE

MINISTER OF AGRICULTURE

1922-1923

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada—

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to submit to Your Excellency a Report of the Department of Agriculture for the fiscal year ended March 31, 1923.

The work of the Department was carried out in a most efficient and satisfactory manner and there will be found included herein a summary of the operations of the different Branches of the Department, all of which is laid before Your Excellency under their respective headings.

The legislation affecting the Department during the period consisted of:—

Chapter 5, 12-13 George V, intituled "An Act to regulate the Sale of Agricultural Fertilizers." (Assented to June 28, 1922.)

Chapter 7, 12-13 George V, intituled "An Act to amend the Animal Contagious Diseases Act." (Assented to June 28, 1922.)

Chapter 35, 12-13 George V, intituled "An Act to amend The Oleomargarine Act, 1919." (Assented to June 28, 1922.)

Chapter 43, 12-13 George V, intituled "An Act to regulate the Sale and Inspection of Root Vegetables." (Assented to June 28, 1922.)

By Order in Council approved under date April 21, 1922, there was constituted an Advisory Board for the purpose of carrying out the provisions of "The Destructive Insect and Pest Act," 9-10 Edward VII, Chapter 31, and the regulations thereunder. (*Vide Canada Gazette*, Vol. LV, p. 4572.)

By Proclamation under date July 24, 1922, "An Act to regulate the sale of Agricultural Fertilizers" shall come into operation on, from and after, August 5, 1922. (*Vide Canada Gazette*, Vol. LVI, p. 561.)

By Order in Council approved under date August 2, 1922, by virtue of the provisions of section 11 of "The Root Vegetables Act, 1922," regulations, relative to containers in which potatoes shall be packed, were established. (*Vide Canada Gazette*, Vol. LVI, p. 662.)

By Order in Council approved under date August 11, 1922, by virtue of the provisions of section 8 of "The Oleomargarine Act," as amended, the regulations relative to the importation, manufacture and sale of oleomargarine in Canada as established by Orders in Council of August 30, 1920, and April 9, 1921, were rescinded and new regulations established in lieu thereof. (*Vide Canada Gazette,* Vol. LVI, p. 779.)

By Order in Council approved under date September 25, 1922, by virtue of the provisions of subsection (*c*) of section 9, of "The Live Stock and Live Stock Products Act, 1917," the regulations respecting the grading and marketing of eggs, as established by Order in Council of April 5, 1918, were rescinded and new regulations approved in lieu thereof. (*Vide Canada Gazette,* Vol. LVI, p. 1484.)

By Order in Council approved under date October 14, 1922, by virtue of the provisions of section 9, of "The Live Stock and Live Stock Products Act," chapter 32 of the Statutes of 1917, as amended, regulations respecting the grading of hogs were established. (*Vide Canada Gazette,* Vol. LVI. See Supplement of October 14, 1922.)

By Order in Council approved under date December 11, 1922, section 40 of the regulations under "The Meat and Canned Foods Act" was amended by the addition of the words: "Or from the province of Nova Scotia to Newfoundland and St. Pierre until March 15, 1923." (*Vide Canada Gazette,* Vol. LVI, p. 2634.)

By Order in Council approved under date December 11, 1922, regulations for the eradication of bovine tuberculosis from restricted areas were established. (*Vide Canada Gazette,* Vol. LVI, p. 2634.)

By Order in Council approved under date January 19, 1923, amendments were made to sections 18 and 19 of the Egg Regulations established by Order in Council approved September 25, 1922 (P.C. 2001.) (*Vide Canada Gazette,* Vol. LVI, p. 3232.)

By Proclamation under date January 15, 1923, the municipalities of Dufferin, Thompson and Rolland were set apart as a restricted area, in virtue of the regulations made under the provisions of "The Animal Contagious Diseases Act," chapter 75, R. S. C. 1906, for the purpose of assisting in the eradication of bovine tuberculosis in the province of Manitoba. (*Vide Canada Gazette,* Vol. LVI (Extra January 27, 1923, also p. 3286.)

By Order in Council approved under date February 26, 1923, in virtue of the provisions of section 3 of chapter 28 of the Statutes of George V, 11-12, intituled "An Act to regulate the grading of Dairy Produce," regulations thereunder were established. (*Vide Canada Gazette,* Vol. LVI, p. 3785.)

By Order in Council approved under date February 26, 1923, in virtue of the provisions of sections 3 and 4 of "The Destructive Insect and Pest Act," 9-10 Edward VII, chapter 31, Ministerial Orders known as Supplements Numbers 1 and 2 to Quarantine No. 1 (Domestic), approved respectively on August 21, 1920, September 25, 1920, and November 15, 1921, restricting the movement of nursery stock in certain areas in the province of Nova Scotia, on account of the apple sucker were rescinded and new restrictions made in lieu thereof. (*Vide Canada Gazette,* Vol. LVI, p. 3786.)

By Order in Council approved under date February 26, 1923, in virtue of the provisions of sections 3 and 4 of "The Destructive Insect and Pest Act," 9-10 Edward VII, chapter 31, Ministerial Orders known as Supplements Numbers 1 and 2 to Quarantine No. 2 (Domestic) Revised, effected respectively on

September 5, 1922, and September 27, 1922, restricting the removal of corn fodder or cornstalks, etc., from certain areas in the province of Ontario, on account of the spreading of the European corn borer, were rescinded and new restrictions substituted in lieu thereof. (*Vide Canada Gazette*, Vol. LVI, p. 3787.)

By Order in Council approved under date February 26, 1923, amendments were made to the regulations under "The Destructive Insect and Pest Act," established by Order in Council approved July 17, 1917, by adding subsection "j" to section 7 thereof. (*Vide Canada Gazette*, Vol. LVI, p. 3790).

By Order in Council approved under date March 13, 1923, further amendments were made to the regulations, under and in virtue of the provisions of subsection (c) of Section 9 of "The Live Stock and Live Stock Products Act, 1917," respecting the grading and marking of eggs as established by Order in Council approved January 19, 1923. (*Vide Canada Gazette*, Vol. LVI, p. 4121.)

DOMINION EXPERIMENTAL FARMS AND STATIONS

The growing season of 1922 was a very favourable one in most parts of the Dominion of Canada, although in certain sections, such as in British Columbia, northern and central Alberta and Saskatchewan, there was a marked lack of precipitation until the end of July. In other districts of the West, however, the rainfall was ample and crops were better than any harvested since 1915. In Manitoba, Ontario, Quebec and the Maritime Provinces, grain crops were generally good.

The total value of all field crops of the Dominion in 1922 has been estimated by the Dominion Bureau of Statistics at $962,616,200, as compared with $931,863,670 in the previous year. Below are given some data as to the yield and value of the field crops in 1922 and in the second table an estimate of the various classes of live stock in Canada during the period 1918 to 1922, inclusive, is given.

AREAS AND ESTIMATES OF YIELD AND VALUE OF FIELD CROPS, 1922

Crop	Area	Yield per acre	Total yield	Weight per measured bushel	Average price per bushel	Total value
	acres	bush.	bush.	lbs.	$	$
Fall wheat	892,569	21·25	18,956,000	59·91	1·01	19,059,000
Spring wheat	21,530,124	17·75	380,830,400	60·31	0·84	320,360,000
All wheat	22,422,693	17·75	399,786,400	60·24	0·85	339,419,000
Oats	14,541,229	33·75	491,239,000	35·68	0·38	185,455,000
Barley	2,599,520	27·75	71,865,300	47·66	0·46	33,335,300
Rye	2,105,367	15·50	32,373,400	55·71	0·58	18,703,200
Peas	189,890	18·00	3,428,600	60·08	1·79	6,141,200
Beans	79,899	16·25	1,303,300	59·39	2·85	3,713,800
Buckwheat	430,982	22·50	9,701,200	47·80	0·84	8,140,800
Mixed grains	779,800	35·50	27,707·700	44·33	0·60	16,500,700
Flax	565,479	8·85	5,008,500	55·04	1·72	8,638,900
Corn for husking	318,397	43·25	13,798,000	55·45	0·83	11,509,700
Potatoes	683,594	81·55	55,745,300	.....	0·90	50,320,000
Turnips, mangels, etc	224,256	196·10	43,973,500	.....	0·54	23,886,000
		Tons	Tons		Per ton	
Hay and clover	10,001,667	1·45	14,488,200	.....	13·46	194,950,000
Fodder corn	654,624	9·00	5,879,000	.....	4·97	29,197,600
Sugar beets	20,725	9·20	190,400	.....	7·88	1,500,000
Alfalfa	305,933	2·65	806,400	.....	12·77	10,295,000

NUMBER OF FARM LIVE STOCK IN THE DOMINION, 1918–22

Live Stock	1918	1919	1920	1921	1922
Horses	3,609,257	3,667,369	3,400,352	3,813,921	3,648,871
Milch cows	3,538,600	3,548,437	3,504,692	3,736,832	3,745,804
Other cattle	6,507,267	6,536,573	6,067,504	6,469,373	6,074,065
Sheep	3,052,748	3,421,958	3,720,783	3,675,860	3,262,626
Swine	4,289,682	4,040,070	3,516,678	3,904,895	3,915,684

Excellent progress has been made with the experimental work of the Branch during the year. Several important additions or replacements have been made in the personnel, such as, the appointment of a new Dominion Cerealist, a new Dominion Agrostologist and also the appointment of a Dominion Agricultural Bacteriologist, to head the newly formed division of that name.

On the branch Farms, work productive of excellent results may be reported from all points and it may be especially noted that the new Station at Swift Current, Sask., where such important problems in relation to dry farming are to be studied, was got into good condition for the commencement of experimental work and a great deal of such work actually put under way. Still greater progress might have been made throughout the system had it been found possible to secure a larger appropriation for the erection of buildings, some lines of experimental work being practically held up for lack of building accommodation.

During the year a considerable number of new publications or revises of old ones were sent in to press, together with reports from the branch Farms and Stations and from the Divisions at the Central Farm. The regular issues of Seasonable Hints were also brought out. Below are listed the publications either issued from the Branch during the year or in process of being printed at the year's close:—

BULLETINS NEW SERIES

No. 11 New Varieties and Selections of Grain Originated on the Dominion Experimental Farms.
No. 15. Pigeons.
No. 17. Hardy Roses. Their Culture in Canada.
No. 18. Modern Orchard Practices.
No. 19. Cranberry Culture.
No. 21. Alkali Soils.
No. 22. Western Prairie Soils.
No. 23. Soil Fertility.

PAMPHLETS NEW SERIES

No. 10. Root and Storage Cellars.
No. 11. The Best Varieties of Grain.
No. 12. How to Caponize.
No. 17. Finishing Steers for Market.
No. 18. Winter Steer Feeding.
No. 19. The Winter Finishing of Steers (J. A. McClary).
No. 20. The Winter Finishing of Steers (W. W. Baird).
No. 21. The Winter Feeding of Beef Cattle in Ontario.
No. 22. Wintering Bees in Canada.
No. 23. Steer Feeding Experiments in P. E. I. 1921-22.
No. 26. In the Trough of the Wave.
No. 27. Meilleur Cheese.

SESSIONAL PAPER No. 16

CIRCULARS NEW SERIES

No. 15. Diseases of Plums and Their Control.

SPECIAL CIRCULARS NEW SERIES

No. 9. Recommended Varieties of Field Roots.

EXHIBITION CIRCULARS

No. 106. Feeds for Wintering and Winter Fattening of Beef Cattle.

No. 107. Growing of Feeds for the Winter Feeding of Beef Cattle.

Following will be found some very brief notes on the work of each division and each branch Farm throughout the system:—

Division of Animal Husbandry

The breeding work with Clydesdales was continued in 1922; the results with foals, however, were not very good, owing to losses due to obscure causes. Only one case of joint ill occured and the use of vaccine as a prophylactic treatment against this, combined with the use of potassium-iodide, is being continued. No experimental work with feeding horses was done, but figures relative to costs of rearing, maintenance and cost of horse labour were obtained.

In the fall of 1922, over 100 head of steers were purchased and run on range until snow fell. They were then divided into four groups, three of two-year olds and one of year-olds. One of the year-old lots is being finished to make an export shipment of cattle in May or June of 1923.

The dairy herd continued to show improvement. Four breeds are maintained, viz., Ayrshire, Holstein, Jersey and French Canadian. There are in all 176 head in the herd. The demand for well-bred bull calves was especially heavy during the year. A number of excellent Record of Performance and Record of Merit records were made and the general average of the herd well maintained.

With sheep, the Shropshire and Leicester flocks are making notable progress, owing to the excellent range facilities available during the year.

With swine, the herd totals 119 Yorkshires and 66 Berkshires. During the year fairly heavy sales in breeding stock and heavy sales of pork were made. Progress was made in the development of a distinctive bacon type with the Berkshires on the Central Farm.

In the dairy work, further improvements were made in the curing rooms of the dairy building, resulting in better control of moisture and temperature. The Meilleur cheese, recently originated at the Central Farm, has been greatly improved due to changes in process and curing. It has proven very popular with the public. An improved butter-milk cheese has also been brought out and is being regularly manufactured.

During the summer of 1922, further agricultural survey work was carried on in the Province of Quebec by a member of the Division.

A number of visits were made to branch Farms of the system and considerable work done judging at exhibitions, attending meetings, conventions, demonstrations, etc., and in assisting breeders and purchasers of stock, both from Canada and abroad.

Division of Field Husbandry

The winter of 1921 and 1922, owing to low temperatures with little or no snowfall, was very hard upon clover and alfalfa, a considerable amount of winter-killing being experienced.

On the Central Farm, in the regular hay mixture, alfalfa is included, which has been found very materially to increase the yield and also supply a leguminous hay mixture of greater permanency. Sweet clover in trials at Ottawa has proven very unsatisfactory, owing to smaller yield and poorer quality than the ordinary hay crop. It has also been found very difficult to cure.

An experiment with corn and sunflowers showed a slightly larger yield of dry matter per acre with corn and, from experiments so far conducted, it would appear unwise to substitute sunflowers for corn where the latter can be successfully grown.

The yields of crops at the Central Farm were: hay, 3 tons per acre; wheat, 27.4 bushels; barley, 56.7; oats, 70.5; mangels, 24.1 tons; Indian corn for ensilage, 15.9 tons per acre.

The experimental work conducted at Ottawa by the Division of Field Husbandry includes the study of various rotations and cultural processes. The widely varying types of soil on the Farm furnished results suitable for the use of the farmer cultivating a wide range of soils. Other lines of experiment are the maintaining of fertility of land which does not receive regular applications of manure, various rates and methods of applying farm manure, cost of production of field crops, etc., etc.

On the prairie Farms, some very interesting work has been incepted in the study of soil moisture, especially in those districts where precipitation is very scanty. These experiments comprise study of the amount of water required to produce the various farm crops, study of the drought resistance of these crops, conservation of soil moisture by cultural methods. In this branch Farm work, co-operation between the divisions at Ottawa and the branch Farm superintendents is very close, the final results of the work as recorded on the branch Farms being collated at headquarters at the Central Farm, Ottawa.

Division of Horticulture

The work of this Division is of widespread interest, not only to the farmer and commercial fruit or vegetable grower, but also to those having small gardens or even only a bit of lawn with a few flowers or shrubs, as found in our cities, and it is the endeavour of the Division to meet the desires and needs of all these various classes as widely as possible, both in its experimental work and in its issuing of bulletins and pamphlets, handling of correspondence, holding of meetings, flower displays, etc., etc.

A main line of endeavour in this Division is the originating of new sorts of fruits, vegetable and ornamental plants suitable for Canadian conditions. The work of crossing and selection with this end in view has been in progress for many years and already marked results have been obtained. With the wider and more specialized work now being conducted, both at the Central Farm and on certain branch Farms, particularly devoted to horticultural work, more rapid progress is hoped for. Such sorts as have already been originated are compared with standard sorts and the most promising sent throughout Canada for further trial.

Cereal Division

The crop conditions in 1922 in most parts of Canada were almost the reverse of those of 1921. In eastern Ontario rain fell when most needed and crops were harvested under almost perfect conditions.

At the Central Farm the total number of test plots of cereals was 608, which included 586 varieties and also the nucleus of a collection of strains for a test of the various strains of the better known varieties of cereals.

During the year the Division purchased a new plot threshing mill, which has been found to be a great improvement over the old one. A head threshing machine was also constructed from plans drawn in the Cereal Division and is giving good satisfaction for the threshing of single heads.

During the year a number of press articles were prepared, as well as a bulletin and a pamphlet by Dr. C. E. Saunders, late Dominion Cerealist. The annual free distribution of seed grain was conducted as usual, 15,676 samples being sent out in all.

Division of Forage Plants

The new Dominion Agrostologist, Dr. G. P. McRostie, took over his duties in July, 1922.

During the year the various phases of the work already established were continued and a considerable amount of new work introduced. Variety tests were carried on, comparing corn with sunflowers. A wide study was made of the suitability of various grasses and clovers for annual hay crops, both alone and in combination, and a number of selections made of desirable types of alfalfa, timothy, western rye grass, orchard grass and meadow fescue. Some of these have already proven so promising as to be named and a considerable number are being tested or multiplied upon the prairie Farms. Further isolations were made with sunflowers as well. With field roots, selection work was continued, with the idea of securing standard types and to eliminate the mixture of types found in most varieties now sold commercially.

Poultry Division

The marked interest shown during recent years in poultry keeping has been continued, and indeed increased, during the past twelve months. Upon the Experimental Farms themselves the work has progressed very satisfactorily. Flocks have now been placed upon the Farms at Swift Current and Beaverlodge and with a better class of poultrymen now available throughout the system, experimental work of a wider and more accurate nature is possible.

The chief feature of development in the year has been the registration of poultry through the medium of the series of egg-laying contests conducted by the Poultry Division throughout Canada. The qualifications for registration are, (1) that the bird be typical of the breed it represents, (2) that it have no standard disqualifications, and (3) that it lays 200 or more eggs, weighing 24 ounces to the dozen, within the contest year, 52 weeks. The registration is looked after by the Canadian National Poultry Record Association, the contests and inspection being handled by the Poultry Division of the Farms Branch and the registration by the Canadian National Live Stock Records. Only birds in the Canadian Egg Laying Contest can qualify.

Excellent progress has been made with the work of breeding high producing strains upon the Experimental Farm. This year a pen of ten pullets on the Agassiz Farm averaged 260.1 eggs per hen for the year.

The experimental work has been largely upon feeding problems and experiments in fertility and hatchability of eggs and liveability of chickens.

Through co-operation with the Health of Animals Branch, one of their officers was secured for the study of poultry diseases.

The extension work is a very important feature of the activities of the Poultry Division. This work includes contests, exhibits, field work in the Province of Quebec and the Maritime Provinces and the sending out of poultry and eggs account forms to poultry keepers; also, the issuing of bulletins, press notices, and the giving of lectures.

Division of Chemistry

The year's work in the Division of Chemistry was a very active one, not only in continuing lines of investigation already under way, but in planning and establishing new work. Under the former head a great volume of work which may be generally defined as chemical service to farmers was carried on, covering analyses of samples of soils, manures and fertilizing materials, fodders, feeding stuffs and forage plants, well waters and miscellaneous samples sent in from all parts of Canada. A great amount of work was also done for the Meat and Canned Foods Division of the Health of Animals Branch, some 2,792 samples being analysed and reported upon.

The division is also carrying on the study of many soil problems, of which two may be mentioned, viz., the influence of certain croppings and rotations on soil fertility and the alkali content of soils as affecting their agricultural value under irrigation.

The investigational work in fertilizers was carried on on a number of the branch Farms and upon the Central Farm, and a number of new experiments in this connection have been planned for 1923. A large number of special investigations were continued during the year, such as the determination of fat and protein content of flax seed and the study of the nutritive value of some well known varieties of corn, the problem of the stage of growth at which to cut sunflowers for ensiling, and the advisability of growing sweet clover for silage use.

The Division has also taken on the work of standardizing feeds. Last year's work included the revision of standards for wheat, and in 1922 the classifying of meat and fish products was undertaken. The usual analysis of the sugar content of sugar beets grown in various parts of Canada was made.

Division of Botany

The work of the Division of Botany falls under the two heads of economic botany and plant pathology. Some of the main lines of investigation carried on related to weed eradication and control, study of plants poisonous to live stock and diseases affecting crops. The plant pathological work is conducted not only at Ottawa but at a number of points where field plant pathological laboratories have been established, these being situated at Charlottetown, Fredericton, St. Catharines, Winnipeg, Indian Head, Saskatoon and Summerland. All these act not only as laboratories for research but as centres from which information is spread to the farming community served by each. At the Central Laboratory at Ottawa, research work was conducted in the study of the action of light on plants, forest pathological problems, the physiological action of fungi, etc.

Special attention is paid to the potato crop of Canada and its diseases, a widespread and thoroughly organized system of inspection and certification of the fields and harvested crops being carried on.

Division of Economic Fibre Production

The season of 1922 was an excellent one, although the retting season was not favourable in some districts. Ten and a half acres of fibre flax were sown by this division, one-fifth of the area being used for variety tests and the remainder for experimental work in flax growing and growing it commercially. Of the eight varieties tested, Ottawa 770B gave the highest dry weight per acre 5,900 pounds. The yield from the commercial acreage was a little lower than that of the experimental plots.

Experiments were carried on to determine the best stage of growth for harvesting flax for fibre, the crop being pulled at different dates but the same variety being used throughout the experiment. From results so far there seems to be very little difference between early- and late-pulled flax, that is, when the whole period does not extend over two weeks. This work will, however, be continued. The yield of fibre from dew and water-retting was also studied, but the experiment is yet being continued. Careful records were kept during the year as to the actual percentage of long fibre and tow obtained from flax straw and the losses due to each operation. It was found that the percentage of long fibre represented 8.20 of the original weight and of tow 4.46 per cent of the original weight.

Two varieties of hemp were also tested, but the season at Ottawa proved too brief to allow them to mature, although both were harvested and scutched. Varieties of fibre flax are being tested at eight branch Farms in the eastern provinces.

Commercial flax growing and manipulation were carried on at Clinton, Ont., where some 160 acres were sown to fibre flax and a flax mill was leased to handle the crop. Some very valuable practical results and figures were obtained. In tests of new machinery, the Van Allen deseeder was tried out with satisfactory results. The Vessot lifting machine was also tried, but it was found that it still requires some perfecting before it is in shape to manufacture commercially.

The Chief of the Division visited Europe in the spring of 1922 to look into the question of markets for flax products, and the results of this trip are not yet fully known. Considerable interest was aroused in the fall among American buyers who examined the western Ontario flax crop and so far some 400 tons have been disposed of to American spinners. To aid in the work of getting the crop in shape for selling at the best price, a competent flax grader is employed by the Flax Division to visit the scutching mills and supervise the work of grading thereat.

The Tobacco Division

The season of 1922 was not so favourable for tobacco growing, either in Ontario or Quebec, as was the preceding year and the area planted in Quebec Province was much smaller. The quality of crop from both provinces was satisfactory.

Heavy rainfall at the Tobacco Experimental Station, Farnham, Que., at times completely flooded the plantations and interfered materially with some lines of the experimental work. At Harrow an interesting line of work was the trying of a special furnace for the curing of yellow tobacco by the hot-air process. The results have established clearly that the apparatus is not satisfactory for the purpose, under the climatic conditions prevailing in the Counties of Kent and Essex. The possibilities of using high pressure steam for heating the kilns was also tried, a locomotive type boiler being installed with a large number of independent groups of radiators, permitting of an exact regulation of temperature. This system worked very satisfactorily.

The most progress made in 1922 was perhaps in the growing and handling of certain aromatic tobaccos suitable for cigar manufacturing and it is hoped that another year or two of trial and development of these types may result in fixing a variety or strain which will produce a tobacco acceptable to Canadian cigar manufacturers.

Bee Division

The bees came out in the spring of 1922 in good condition and there was an abundance of early pollen and nectar. In some parts of Canada, however, later conditions were not favourable for honey gathering, although in other parts, remarkably heavy crops were obtained. The average yield per colony at the branch Farm, Agassiz, B.C., was 194 pounds, and at Morden, Man., 272·6 pounds. During the year two new apiaries were started, one at Beaverlodge, Alta., and the other at La Ferme, Que., while the Central Apiary at Ottawa increased from 63 to 100 colonies.

Bee breeding experiments were continued and also experiments in the control of swarming by manipulation. Comparison of wintering bees outside in packing cases versus cellar wintering was also continued, both at Ottawa and at some of the more northern Experimental Stations.

Many samples of diseased brood and adult bees were received and diagnosed for private beekeepers throughout the year.

Division of Illustration Stations

Eighty-nine Illustration Stations were operated during the year, these being located as follows: 11 in British Columbia, 11 in Alberta, 15 in Saskatchewan, 31 in Quebec, 10 in New Brunswick and 11 in Nova Scotia. It is hoped to increase the number of these and establish some in new districts in 1923.

The Illustration Stations have done good work in the introduction of new crops in certain districts of the eastern provinces, such as the growing of succulent crops for winter feeds.

At thirteen points in Alberta and Saskatchewan where Illustration Stations are located, sufficient corn and sunflowers were grown to warrant the use of a silo. Trench silos were excavated at 11 of the Stations and at two others crib and scantling silos were put up. This work has created a great deal of interest and has furnished some very valuable data. The trench silos proved very satisfactory, both as to the quality of silage and the ease of handling same.

In the Maritime Provinces the value and use of certified potatoes for seed as compared with uncertified stock were demonstrated.

An interesting and valuable feature of the work of the Illustration Stations is their serving more and more each year as centres for the distribution of tested varieties of seed grain, grasses and clovers. The farmers in the districts where these Stations are located are looking more and more to the Illustration Stations for their supply of first-class seed.

Division of Extension and Publicity

The work of this Division was continued along the lines of the preparation of exhibits for various fall fairs, the distribution of literature at exhibitions and circulars, the planning and construction of educational exhibits and the arranging of exhibits for various fall fairs, the distribution of literature at exhibitions and fairs, and the securing of additional names for the mailing lists, etc.

A very interesting feature of the work of this Division is the lantern slide bureau, which is rapidly growing and becoming in increased demand. These slides are arranged in series to illustrate various agricultural subjects and with each is sent out a brief synopsis or series of notes on the topic illustrated.

For the first time a complete exhibit was staged at the Canadian National Exhibition, Toronto, and attracted a great deal of attention. A special exhibit was also made at the Central Canada Exhibition and at the Royal Winter Fair, Toronto. The Chief of the Division addressed some fifteen meetings during the year and acted as judge at a number of horticultural and agricultural fairs.

Experimental Station, Charlottetown, P. E. I.

Spring opened late and it was the middle of May before cereals were sown. The growing season, however, was favourable and the harvest excellent.

During the year, the Blake property of fifty-one acres in all was added to this Station.

The Ayrshire herd, which did excellently during the year, was fully accredited in August, 1922. Steer feeding has been conducted during the past winter, the main points under observation being variations in the rations fed, and the effects of dehorning steers.

With swine, a bacon production test was carried on in co-operation with five of the Prince Edward Island breeders of pure bred hogs and the Live Stock Branch.

There were twenty pens in the fourth Prince Edward Island Egg Laying Contest which closed at the end of October, eleven birds qualifying for registration by laying over two hundred eggs in the year.

A number of breeders' and growers' associations held Field Days at the Station, and the Superintendent and his Assistant gave instruction at several Short Courses and addressed farmers' meetings.

Experimental Station, Kentville, N. S.

The fruit orchards established on the Station in 1912 are now coming into bearing, the 1922 crop amounting to 1,048 barrels. This fruit was shipped to the British market through a farmers' co-operative organization, but the returns were low last year, averaging only $1.87 per barrel.

A great deal of experimental work is being conducted in the use of both liquid and dust insecticides and fungicides upon the orchards.

Fertilizer experimental work is also being given special attention both in connection with fruit and field crops. The value of ground limestone as a soil improver is being very clearly brought out in this work, the yield of clover having, in many cases, been doubled thereby.

The dual-purpose herd of Shorthorns is gradually improving from the use of bulls from good milk-producing strains, while at the same time retaining its beef quality.

The poultry flock and equipment were enlarged during the year, and special attention was given to the apiary, not only with a view of greater honey production, but to permit of a wider study as to the effect of keeping bees in fruit-producing districts.

Experimental Farm, Nappan, N.S.

Farming operations were under way by the 15th of May and the growing season was an excellent one, resulting in heavy yields of field crops.

Guernseys, Shorthorns, grade Ayrshires, and grade Holsteins are kept at the Nappan Farm, and some valuable data as to cost of milk production, cost of rearing young stock, and cost of feeding a mature herd were obtained.

Experimental work with swine covered the accumulation of data on the cost of maintaining brood sows, cost of feeding small pigs, cost of pork production, and the values of different rations.

With sheep, the work covered the cost of maintaining both a pure-bred and a grade flock, cost of rearing lambs, and grading-up experimental work.

Under field husbandry, rotations, cost of production, and comparison of values of different cultural methods were studied. Experimental work was begun on marsh land to obtain data as to cost of improvement. Variety test work was carried on in cereals, forage crops and in horticulture.

The third Egg-Laying Contest for Nova Scotia was held at the Farm during 1921-22, including two hundred birds. With the Farm flock, a wide range of experimental work is being conducted in the study of the cost of egg production, various rations for growing and laying stock, incubation, brooding, housing, etc., etc.

During the year, the Superintendent addressed a number of meetings and acted as judge at several fairs.

Experimental Station, Fredericton, N.B.

The winter of 1921-22 was very mild and the first ploughing was done on April 17; later unfavourable weather, however, delayed seeding about a month. Excellent crops resulted from a favourable growing season.

Holsteins, Ayrshires and dual-purpose Shorthorns are kept at the Fredericton Station and during the year eleven cows were entered in R.O.P.

With sheep, the Shropshires and Cheviots are kept. Some of the work done with these was the determining of the value of early versus late weaning of lambs, also whether the late marketing of lambs was profitable.

With swine, the Yorkshires are kept, but present accommodations do not permit of a sufficient herd to meet the demand for breeding stock. Experimental work in feeding for bacon production was conducted.

Extensive pedigree work is being carried on with poultry, which is confined to the Barred Plymouth Rock breed at this Station. Also the rearing of chickens and feeding for egg production are being studied. The second annual provincial Egg-laying Contest was conducted at the Station during the year.

In field husbandry, general field crops were grown and plans determined upon for the study of the best system of rotation of crops for the province of New Brunswick.

With forage crops, the first year's work with alfalfa was very satisfactory, there being no winter killing, and the work with clovers and grasses for hay production is furnishing some very interesting data.

The superintendent of the Fredericton Station is also in general charge of the Illustration Station work in New Brunswick, eight new stations being established during the year, bringing the total number up to seventeen.

A number of small excursions were held at the Station during the summer, and exhibits were shown at several fall fairs.

Experimental Station, Ste Anne de la Pocatiere, Que.

The season in this district was rather an unfavourable one, owing to prolonged drought, which lasted from the latter part of June practically until winter set in. Grain crops were fair but other crops and pastures were very poor.

The pure-bred Percherons kept at the Experimental Station did well during the year, three good colts being raised. Much improvement has been made in

the herd of Ayrshires through the elimination of low-producing individuals. Sheep, swine and poultry did well during the year although not a great deal of experimental work was carried on, owing to the reorganization under way at the Station. The first Eastern Quebec Egg Laying Contest was started on November 10, 1922.

In field husbandry, three, four and five-year rotations are now under way, as well as a number of experiments in soil management.

The usual variety tests were conducted with cereals, forage crops and in horticulture and some selection work done with field roots.

An exhibit was shown at eight fall fairs in the district and a considerable amount of judging done.

During the year, a fruit cellar, a small cottage, a house for the Superintendent and a poultry contest house were built.

Experimental Station, Lennoxville, Que.

The season was later than usual, seeding commencing on May 1. Yields of all field crops were very good.

The herd of cattle is made up of pure-bred Ayrshires, Shorthorns and Jerseys, the last-named having been just recently added. In addition, feeding experiments were conducted with some ninety-two steers. The Yorkshire breed of swine is kept and the Oxford Down breed of sheep. There was considerable demand for breeding stock of each of these.

During the year the area set apart for experimental work with fertilizers was divided into plots and the work commenced. Variety tests were carried on with forage crops, cereals and in horticulture, the latter comprising fruits, vegetables and ornamental gardening.

The first poultry contest at this Station was commenced on November 1, with twenty pens. Some excellent work in breeding and selection is being done with the farm flock and a high producing strain is gradually being established.

A number of improvements were made on the Farm buildings and a new laying contest house erected. Three hundred and sixty rods of fence were put up and some thirteen acres of rough land cleared and levelled. The Farm exhibit was shown at several points. The annual farmer's day was held at the Experimental Station on August 16 with one of the largest gatherings ever seen on such an occasion.

Experimental Station, Cap Rouge, Que.

At this Station most field and garden crops ranged from excellent to good in yield but pastures, roots, small fruits and potatoes were only fair.

At the end of the fiscal year there were eighty-seven pure-bred French-Canadian horses at the Station or at the Horse Farm at St. Joachim. These animals are being used for experiments in breeding and housing besides doing the work on the Farm. The number of foals raised in 1922 was twenty-two.

With cattle, seventy-two pure-bred French-Canadians make up the herd, with which experiments were conducted in breeding, feeding, housing and management. This herd has more families qualified in Record of Performance than any other herd of the breed in existence. During the last two years the world's record for two-year olds of this breed was broken three times by heifers bred at Cap Rouge.

Some excellent work in breeding, feeding, housing and management of poultry was conducted during the year, the Barred Plymouth Rocks being the breed kept.

The work in field husbandry comprises, generally speaking, cost of production of the main field crops, comparison of rotations, comparison of corn, sunflowers, peas and oats for silage and work in soil management. With cereals, forage crops and in horticulture the regular variety test work was continued and some selection work was done with the first-named. During the year a foaling shed was put up at the Horse Farm and the cattle barn at Cap Rouge was finished.

Experimental Station, La Ferme, Que.

The season of 1922 in the Abitibi region was not as favourable as that of the preceding year, which had 101 days without frost as against 85 days in 1922. There was, however, abundant rainfall and a good harvesting season.

No experimental work with horses has yet been commenced at this comparatively new Station but a commencement has been made in establishing a herd of Ayrshires, both pure-bred and grade, and some experimental work with sheep and with swine was carried on.

In field husbandry, several rotations were established in 1922, principally to study the best methods of maintaining soil fertility. Further clearing work was carried on, the total area of the Farm, under cultivation, now being 200 acres and clearing work will be continued during the coming year.

Tests of varieties of cereals and forage plants and garden crops are well under way. A flock of poultry has been established and work with bees commenced. In the course of the year two poultry houses were constructed and a piggery partly built. Part of the barn was fitted up for the cow barn and repairs made to a number of the buildings.

An exhibit was shown at the local fair at Amos.

Experimental Station, Kapuskasing, Ont.

The precipitation during the five growing months of 1922 was 3·65 inches below average. This, with a late spring, caused poor germination and slow growth, with reduced yields.

The dairy herd at this Station consists of grade Ayrshires, with a pure-bred Ayrshire bull and the beef herd is of grade Shorthorns, headed by a pure-bred Shorthorn bull. The whole herd is accredited. With sheep, the Shropshire breed is kept and the Yorkshire breed of swine. With horses, no experimental or breeding work has yet been attempted, only work animals being so far kept on the Station.

Considerable experimental work with ensilage crops was carried on as to the best mixtures, rates of seeding, crops best suited for this purpose, etc. Work with crop rotations was laid out, as well as experiments in building up new land by the use of green manures. This Station affords an excellent opportunity of getting cost data as to various methods of clearing land. These data are being carefully kept. In horticulture, variety test work was carried on with small fruits and vegetables. The orchard set out in 1918 has not yet come into bearing. Tests with varieties of cereals and forage crops were also carried on.

In co-operation with the Division of Chemistry some extensive experiments are under way in the test of fertilizers, etc.

The poultry plant has now reached a good size and some excellent work was done in the comparison of various rations for laying stock and in fattening experiments.

A small apiary has also been established.

Experimental Station, Morden, Man.

Yields of all field crops in Southern Manitoba were considerably above average in 1922.

During the year the small herd of Ayrshires kept at the Morden Station was increased by four cows and a young bull. Some good milk records are being made at the Station.

Horticulture is made a main feature at the Morden Station and excellent progress is being made in the work, both with fruits and vegetables. The main object in view with fruits is to secure varieties hardy enough for general use in the Prairie Provinces and during the year a plant breeding greenhouse was erected to facilitate this work.

The work with poultry and bees is now well established. Pedigree work is being continued with poultry and the apiary is gradually being enlarged. It is believed that there is a considerable future for bee keeping in this section of Manitoba.

Experimental Farm, Brandon, Man.

Owing to an over flow of the Assiniboine river, about 200 acres of the Experimental Farm at Brandon were flooded and 170 acres were without crop for the season. On the remainder of the Farm, however, conditions were favourable and excellent crops were harvested.

The herd of dual purpose Shorthorn cattle at Brandon, numbering about 70 head in all, are showing steady improvement through selection. Careful cost of production figures are kept and a wide range of experimental work, especially in feeding, is carried on. Steer-feeding experiments were also conducted during the year.

A trench silo was dug on the Farm this year and filled with corn ensilage. The silo proved a complete success, there being scarcely any loss from decay and none from frost.

With the Yorkshire swine, the breeding operations carried on have been with the object of producing a type which will conform to export bacon requirements. In addition to this, feeding experiments have been conducted and cost of production figures gathered.

With sheep, the main work carried on is grading up experiments and, in horses, Clydesdale breeding, some very fine individuals being in the stud.

In field husbandry, work with crop rotations takes up a large area of the Farm and forms a very important part of the work. This, however, was greatly hampered for the year by the flood referred to.

Cultural experiments are also an outstanding feature, these covering depth of ploughing, depth of seeding, stubble treatment, summer-fallow substitutes, cultural methods of controlling rust, etc., and this work was extended last year to cover experimental work in the growing of hay crops.

The variety tests with cereals, forage crops, vegetables, fruits, etc., were conducted as usual and some important data gathered.

With poultry, the breeding work is with the end in view of developing good utility strains of Barred Rocks and White Wyandottes. The Manitoba Egg Laying Contest is also conducted at the Brandon Farm.

Experimental Farm, Indian Head, Sask.

The crop yields of 1922 were considerably above average, the field lots of wheat yielding as high as 48 bushels per acre. Very little rust damage was noticeable and insects pests were not as numerous as usual.

The horses on the Farm are now practically all pure-bred Clydesdales. Careful feed records were kept during the year and the treatment for the prevention of diseases in foals was found to be ninety per cent effective.

The cattle on the Farm are all pure-bred Shorthorns of the dual-purpose type. Comparison of feeding of Indian corn vs. sunflower silage to this herd

was carried on with a slight advantage shown in favour of the former. Experiments were also carried on with sheep and swine. The work with poultry included feeding, incubation and brooding experimental work, together with a continuation of the efforts to produce a high egg laying strain of White Wyandottes. The Saskatchewan laying contest is carried on at this Farm.

Variety tests were carried on with cereals, forage plants, fruits and vegetables, as usual.

A number of new cultural experiments were started during the year, including methods of summer-fallow, summer-fallow substitutes and of fertilizers, stubble treatment, rates of seeding grasses and clovers, etc., etc.

A large number of visitors came to the Farm during the year, although no special excursion days were held.

Experimental Station, Rosthern, Sask.

Freedom from frost and sufficient moisture made the season of 1922 a successful one. The hay crop was the largest since 1914 and the grain crop since 1916.

A notable feature of the work at this Station is the herd of Holsteins, made up of 22 females, all developed on the Station from two heifer calves purchased in 1914. The records made by some of these are outstanding. During the winter of 1921-22 steer feeding experiments were carried on to compare various rations for this purpose.

The work with sheep consists of the grading up of range ewes by the use of a well-bred Leicester ram. Excellent results are being obtained from this work. With swine, the Berkshires and Tamworths are being compared as to cost of rearing and feeding and quality of pork.

The work in field husbandry has, so far, been confined almost entirely to rotation of crops. This has been carried on continuously since 1911, with a number of excellent results therefrom.

Another interesting feature of the work here is that in horticulture. For some years after the establishing of the Station, little progress could be made, owing to climatic conditions, but as soon as the windbreaks became established there was much less difficulty in growing vegetables, flowers and some of the more tender shrubs. With cereals and forage plants the usual variety testing work was carried on during the year, a special feature of the latter being comparison of corn with sunflowers and ensilage.

The work with poultry showed especially good progress, both feeding experiments and breeding work being conducted.

An exhibit prepared at the Station was displayed at several fairs and the Superintendent addressed a large number of conventions, farmers' meetings and classes in agriculture for boys.

Experimental Station, Scott, Sask.

While there was ample moisture early in the spring in this district, from the middle of May to the end of July, rainfall was very scant and, consequently, cultivated grasses and early sown cereals suffered.

The Percheron breed of horses is kept at this Station and two pure-bred foals were raised during the year. There are at the Station now twenty-five head of pure-bred dual-purpose Shorthorns, which did well in milk production. A comparison of various feeds was carried on during the winter months and cross breeding experiments with swine were continued. With sheep consider-

able work was done towards ascertaining a reliable preventive for goitre in lambs. It was found that feeding a small quantity of potassium iodide solution in the salt was quite successful. Cross-breeding work with sheep was continued.

Variety tests were carried on with cereals as well as with vegetables.

Work was carried on with poultry in feeding experiments and comparison of pullets vs. year-old hens as layers, the advantage going to the former.

An exhibit from the Station was sent out to six fairs.

Experimental Station, Swift Current, Sask.

In 1922 the first crop was produced and the first experimental work done on the Swift Current Station. In general the season was a very favourable one and good crops of all kinds were obtained. Seeding was almost a month later than the average in this district and was further delayed by bad weather after its commencement. It was finished about the end of May.

Extensive experiments in field husbandry have been laid out, both in fields and in plots. There are three main problems being studied in the field work: (1) summer-fallow methods, (2) methods of treating stubble land for grain crops, (3) crop rotations. In addition, the usefulness of various packers, cultivators and other implements is being carefully observed. A seven-year rotation has been laid out on a fifty-acre field, and, adjoining, other rotations, suitable for dry land farming, have been laid down.

An area of twenty-five acres has been laid out in one-fortieth acre plots, on which will be conducted experiments on the cultivation of corn, sunflowers, hay and pasture grasses, methods of seeding grass and clover, fallow substitutes, fall rye culture, and a number of rotations. Variety tests of cereals and of forage crops have also been put under way.

In animal husbandry, a small herd of Shorthorn cattle has been established. No breeding work with horses has yet been commenced, but when started the breed used will probably be the Clydesdale. A start was made with poultry by the purchase of a small flock of Rhode Island Reds.

In horticulture, the first work done was the planting of material for hedges and windbreaks without which horticultural work is difficult.

During the summer there were erected on the Station a superintendent's house and office, a boarding house, a straw barn for cattle and a number of grain bins.

Experimental Station, Lethbridge, Alta.

The season of 1922 was unusually late, most seeding being done after May 15. The weather was favourable until the middle of June, but from that date until harvest the rainfall was insufficient. However, crop conditions generally throughout southern Alberta were better than in any year since 1916. There was little soil drifting but cutworms did damage in some localities. Grasshoppers were successfully combatted by co-operation among the farmers aided by the Provincial Government.

The horses on the Station are all grades with the exception of one team of pure-bred Clyde mares and two teams of pure-bred Percheron mares. No special experimental work in breeding has been attempted. Experimental work with steer feeding was carried on during the winter 1922-23 to compare the feeding value of alfalfa hay with sunflower and with corn silage. Feeding work was also conducted with lambs. An interesting experiment at this Station is the study of the feasibility of farmers on irrigated land using forest reserve pasture for their sheep during the four summer months. The results so far are inconclusive, but would seem to point towards the advantage of a number of farmers co-operating in this work, so that the combined flocks might be large enough to warrant the employment of one or two herders.

A great deal of interest was shown in the poultry work at this Station. The Provincial Egg Laying contest for Alberta is carried on here. The work with bees again proved to be satisfactory, showing the suitability of southern Alberta for bee keeping. A number of farmers are keeping a few colonies of bees and some fair-sized commercial apiaries have been started.

In field husbandry, eight different rotations of crops are under test on the dry land and three on the irrigated land of the Station. The usual variety tests with cereals and forage crops were conducted as well as with certain vegetables and small fruits. It was found possible to expand the investigational work in irrigation to a considerable extent during the past season, a large number of plots having been laid out and study made of the effect of applying water at different stages of development of plants, the special crops dealt with being alfalfa, timothy, pasture grasses, wheat, potatoes and sunflowers. An exhibit was sent out to a number of local fairs in the district and a special exhibit was prepared for the Calgary Horticultural Association.

Experimental Station, Lacombe, Alta.

The season of 1922 was an abnormal one. It was the driest year on record at this Station and was the fourth in a series of dry years, while severe frosts on May 23 and June 7 with a hail storm on June 19 gave all crops an additional setback. As a result, hay crops were an absolute failure, pastures were bare, and early seeded crops gave very light yields, but late seeded crops and late varieties yielded well.

The live stock at the Station consists of three pure-bred Hackney and twelve Clydesdale horses, seven of which are pure-bred females.

In the beef herd, there are seventy-five head, of which seventy-two are pure-bred Aberdeen Angus. The dairy herd is made up of forty-seven pure-bred Holsteins and twenty-one Holstein grades. Experiments during the year were confined to cost of production and cost of raising young stock, while, with dairy cattle, milk production and its costs were featured.

With sheep, the grading-up experiment with range ewes was continued.

With swine, breed comparisons were carried on with Yorkshires, Berkshires, Duroc-Jerseys, and their various crosses. It has been found that Yorkshires make more economical gains than either of the other two breeds and have produced a much higher percentage of select bacon hogs.

In field husbandry, the most outstanding line of work is the cultural experiments started in 1911; especially during the last four years most valuable data have been secured as to the value of the various cultural treatments in very dry seasons.

In horticulture, the season was very dry and hot for fruits and vegetables, although some good yields of the latter were secured.

Owing to abnormal weather conditions, results of tests with cereals were quite unusual, being decidedly in favour of late varieties. With forage crops, it was noted that corn stood the hot dry weather much better than sunflowers or oats for green feed.

With poultry, White Wyandottes, Barred Rocks, and Single Comb Rhode Island Reds were compared for egg production. Geese and ducks are also being kept.

Interest in beekeeping is increasing throughout the district and the apiary at the Station was increased to thirteen colonies, one of these producing 159 pounds of extracted honey.

During the year the horse barn was moved and the interior rearranged, the implement shed moved and repaired, a number of buildings painted and considerable water piping laid.

An exhibit was shown at seven fairs in the province and a carload exhibit of three breeds of swine was shown at Edmonton, Calgary, and Red Deer.

Experimental Station, Summerland, B.C.

The spring of 1922 was very late, after one of the longest and coldest winters recorded in the Okanagan district. June, July, and August were very dry with the exception of two good rains in the latter month. The fall of 1922, however, has given abundant moisture.

In animal husbandry, no dairy herd has been established at this Station as yet, owing to lack of suitable buildings, but experimental work was carried on in steer feeding, and work in breeding Berkshire swine, also Cheviot and Suffolk pure-bred sheep and grade Oxfords was continued.

The work in field husbandry is being carried on in a seven-year rotation, with alfalfa as the hay crop.

The main feature at this Station is the work with horticulture. The orchards came through the winter of 1921-22 in good condition with little or no indication of winter injury. Different systems of orchard management are being carried on and the orchards so treated are now reaching a stage when it is possible to make a preliminary survey of the results of each method followed. Experimental work was also continued with vegetables, especially to obtain data as to the amount of irrigation water required for each.

With cereals and forage plants, tests of varieties were continued and some selections made.

With poultry, trap nesting and pedigree work is conducted with White Wyandottes. The result of this work is already being seen. In the season of 1918-19, the percentage of birds laying two hundred eggs or over was 7·5; in the season of 1921-22, this percentage was brought up to 34·6.

An increase in the number of colonies was made in the apiary. The season was a good one for honey production, the heaviest yield from one colony on the Station being 240 pounds.

The Station took charge of the Farms Exhibit at Vancouver and New Westminster, and also showed at four other points in the province.

Experimental Station, Invermere, B.C.

The soil was very dry in 1922 and rainfall up to the end of September was almost three inches below the average of the past nine years, which goes to show how dependent the Inveremere district is on irrigation. In field husbandry, a new series of rotations was started during the year to include studies in the upkeep of soil fertility, adaptability to the farming practices of the district, and to incorporate cash crops in the rotation. A three and a four and two six-year rotations under irrigation are now being conducted. The variety tests with cereals and forage crops were continued and also variety and cultural tests with a large number of vegetables, special attention being given to work with potatoes, including variety testing, breeding and selection, cultural methods, and soil fumigation for the prevention of diseases.

Special attention is given to poultry work on this Station, pedigree trap nesting being followed. An interesting note in this work was the performance of the hen Lady Dot E3, which in 1921 laid 325 eggs in her pullet year; she followed this up in 1922 by laying 224 eggs in her second year, and a number of chickens were hatched from these eggs from which it is hoped to establish a high laying strain.

The work with bees was continued but the season was not a very good one for honey production. Considerable building work was done during the year and some land cleared which will be put into orchard in 1923. An exhibit from the Station was shown at six local fall fairs.

Experimental Farm, Agassiz, B.C.

The spring of 1922 was the latest on record owing to the severe winter and continued spring rains until the middle of May. The summer was hot and very dry, so that crop yields were below normal.

The Clydesdale horses kept at the Farm made an excellent showing at New Westminster and at the Pacific International Live Stock Exposition held at Portland. The dairy herd consists of sixty-four head of pure-bred Holsteins and are under the accredited system. A notable feature is the record made during the year by the cow Agassiz Segis May Echo 41302, which produced 30,866 pounds of milk and 1,681·25 pounds of butter in 365 days, this being the world's record for butter production for all breeds and all ages.

Approximately, one hundred breeding sheep, mostly Dorsets, are kept. A number of these were shown at various exhibitions. Swine of the Yorkshire breed were also shown and did well. There is a strong demand for breeding stock from this Farm.

Poultry work at this Station is remarkably good, Barred Plymouth Rocks and White Leghorns being kept. Some excellent records were made and the Egg Laying Contest of British Columbia is conducted at this Station. A pen of Barred Plymouth Rocks owned by the Farm won the contest in 1922, the ten pullets in the pen laying 2601 eggs in the year.

An excellent honey crop was harvested from the small apiary kept.

Test of variety work was carried on with cereals and forage plants, special attention in the latter case being given to the comparison of corn and sunflowers for ensilage purposes. The dry summer caused low yields in most garden crops, but apples and cherries yielded well.

Experimental Station, Sidney, B.C.

The winter of 1921-22 was unusually severe and the spring backward, going to confirm previous observations that the fall sowing of crops in this district should be pursued as far as possible. Special experimental work along this line is being carried on. The main feature at the Sidney Station is horticulture, consequently, not much work is being done with live stock, but a small herd of pure-bred Jerseys is kept and a small flock of Southdown sheep.

The high cost of land and the special farming methods necessary on the Island make the regular farm rotations unprofitable so that no rotation work as compared with that on the other Farms and Stations has been laid out. It is clear that the small holding and intensive farming are the only methods of carrying on profitable agriculture on the Island.

In horticulture, very special attention has been given to the orchards and bush fruits, both as to cultural methods, testing of varieties, selection work, etc.,

The poultry work at this Station is very outstanding. White Wyandottes are the breed kept and the average production for the Station flock in 1922 was nearly two hundred eggs per bird.

During the season, a combined shed and root house was built. A large number of visitors came to the Station, and the work would appear to be attracting more and more attention from the farmers and fruit growers of the Island as well as from the city dwellers desirous of obtaining information as to the handling of ornamental plantations, lawns, and flowers.

Experimental Sub-Stations

Work was continued as in former years on the Experimental Sub-Stations at Fort Vermilion, in the Peace River district, Beaverlodge, in the Grande Prairie district, and a certain amount of experimental work, especially with tree fruits, was also done at Salmon Arm, B. C. A new Sub-Station was commenced at Betsiamites, Saguenay County, Quebec. The work done during the year was of a preparatory nature.

DAIRY AND COLD STORAGE BRANCH

General

Owing to shortage of fodder during the winter of 1921-22 dairy cattle came out in poor condition in the spring of 1922, with the result that production during the early weeks of the season was abnormally low in many districts. Climatic conditions were favourable and the total year's production will exceed that of the previous year.

The price of creamery butter, while averaging somewhat lower than during 1921, was quite uniform and without marked fluctuations throughout the season. The cheese market on the other hand was quite erratic, opening early in May at about twelve cents per pound and reaching in November about twenty-four cents per pound. The extremely low price of cheese during the early weeks of the cheese producing season and the fact that the price of butter was, during a great part of the season, relatively higher than that of cheese, caused considerable diversion from cheese production to butter production. Production statistics for the year 1922 are not yet available but receipts at Montreal from May 1, 1922, to March 31, 1923, show an increase of 156,455 packages of butter and a decrease of 332,359 packages of cheese as compared with the receipts between May 1, 1921, and March 31, 1922.

Exports of butter between April 1, 1922, and March 31, 1923, amounted to 21,994,588 pounds, which is more than two and one-half times the quantity exported during the previous year. The greater part of the increase was in exports to the United Kingdom, although exports to the United States also showed a decided increase. Between April 1, 1922, and January 31, 1923, exports of cheese showed a decline of 12,050,400 pounds as compared with the same period of 1921-22. Imports of butter into Canada between April 1, 1922, and January 31, 1923, show a decrease of 33 per cent as compared with the same period of 1921-22, and the reduction in imports during the last two months of the current fiscal year will show an even greater decrease as compared with the same two months of the previous year.

Production of condensed and evaporated milk will show a decrease as compared with the previous year and exports of these commodities during the ten months ending January, 1923, show a decline of 26 per cent as compared with the same ten months of the previous year.

Production of milk powder, however, was greater than in the previous year and the increase in exports for the ten months ending January, 1923, showed an increase of 361 per cent over the exports of the same ten months of the previous year.

As mentioned above, production statistics for the year 1922 are not yet available, but the following table shows quantities and values of different products during 1921:—

TOTAL DAIRY PRODUCTION IN CANADA IN 1921

Cheese	lbs.	162,117,494	$28,710,030
Creamery butter	"	128,744,610	48,135,439
Dairy butter	"	125,000,000	37,500,000
Whey butter	"	1,337,404	431,114
Condensed milk	"	38,997,936	5,837,787
Condensed skim-milk	"	1,307,781	51,788
Evaporated milk	"	31,202,713	3,428,456
Condensed coffee and cocoa	"	324,011	94,065
Milk powder	"	1,703,496	554,918
Skim-milk powder	"	5,749,229	830,585
Sterilised milk	"	6,696,264	719,009
Casein	"	98,136	9,814
Ice cream	Gals.	5,786,702	8,287,000
Cream sold by dairy factories, lbs. butter fat		8,051,215	5,734,638
Buttermilk sold			300,278
Milk for direct consumption			72,000,000
Curd, cheese, whey, whey cream, skim-milk			271,429
			$212,896,350

As compared with production during 1920, condensed milk was the only commodity showing a serious reduction, while cheese and butter showed a decided increase. Notwithstanding this, the value of our total production was $51,759,-364 less during 1921 than during 1920, owing to reduced prices.

The Branch is organized in three Divisions, viz., Dairy, Markets, and Cold Storage.

DAIRY DIVISION

THE FINCH DAIRY STATION

The year 1922 was the most successful the Finch Dairy Station has experienced during the ten years it has been in operation. The total quantity of milk received was 8,781,879 pounds, an increase of 2,195,394 pounds over 1921, and 6,712,598 pounds over 1912, the first year the station was in operation. The gross receipts totalled $142,928.53, divided as follows:—

Cheese	$	9,005 41
Butter		18,103 56
Butterfat in sweet cream		114,848 99
Whole milk		828 50
Skim-milk		142 07

The patrons received $126,411.76, the average price per 100 pounds of milk being $1.44. The Government realized a substantial profit from the year's operations.

The winter production of milk in the district continues to increase steadily. In the months of December, 1922, and January and February, 1923, 1,023,551 pounds of milk were received. This is nearly eleven times as much milk as was received in the same months of 1912 and 1913.

Owing to the increased production of milk in the district, an addition to the station, 46 by 24 feet, was built during the summer.

GRADING DAIRY PRODUCE IN MONTREAL

For the past three years the Dairy and Cold Storage Branch has graded cheese for sale by auction in Montreal, the work being done by one grader. Requests were received during the past year from four cheese and butter exporting houses in Montreal to have their butter and cheese also graded by officials of the Branch, and in the early part of the season six additional graders were

appointed. Grading was commenced in these four warehouses during the latter part of June. In September and October two additional firms requested to have their cheese and butter graded, which request was complied with.

During the season, shipments of butter were graded from 575 creameries, amounting to 84,065 packages, or approximately $4\frac{3}{4}$ million pounds. The province of Quebec supplied 73,032 packages, Ontario, 7,118 packages, and the western provinces 3,915 packages. The percentages of different grades were as follows:—

Special grade	12·14 per cent
First grade	59·79 "
Second grade	23·89 "
Third grade	4·18 "

Shipments of cheese amounting to 293,000 boxes were graded from 833 factories, 508 of which were located in Ontario, 316 in Quebec and 9 in P. E. I. The percentage of different grades was as follows:—

Special grade	1·4 per cent
No. 1 grade	77·62 "
No. 2 grade	19·64 "
No. 3 grade	1·33 "

The Dairy Produce Act and Regulations, which provide for the grading of all cheese and butter to be exported, will come into force on April 1, 1923. A sufficient number of graders are being appointed to grade all cheese and butter to be exported.

THE DOMINION EDUCATIONAL BUTTER SCORING CONTEST

The Dominion Educational Butter Scoring Contest was continued along similar lines to that of 1921. Fifty creameries participated. The type and quality of the butter was more uniform than during any previous year, which shows that the buttermakers throughout the Dominion are adopting methods which are giving the finest type of creamery butter. The interest in the contest was quite as keen as when first inaugurated in 1919.

COW TESTING

No change was made in the policy of carrying on cow testing work in 1922. A Dairy Promoter was employed by the Branch in each of the following provinces: Alberta, Ontario, Quebec, New Brunswick, Nova Scotia and P. E. Island. Saskatchewan and Manitoba took over the cow testing work from the Federal Department in 1921.

We are pleased to mention again the splendid co-operation of the provincial Departments of Agriculture in carrying on cow testing work. The following table shows the extent of the work for 1922:—

Provinces	Herds	Cows	Testing Centres	Number of Samples Tested
Alberta	111	1,162	36	5,239
British Columbia	22	100	2	553
Manitoba	82	798	23	2,702
New Brunswick	137	1,061	21	4,879
Nova Scotia	360	2,520	48	13,497
Ontario	783	10,347	91	41,582
Prince Edward Island	164	1,046	15	5,217
Quebec	3,469	33,267	463	129,991
Totals	5,128	50,301	699	203,660

The above figures show an increase of 2,500 cows and 8,913 tests over 1921. In addition to the records received in the Branch, hundreds of blank forms were supplied to dairymen who did their own testing and kept their own records.

MILK UTILIZATION SERVICE

Educational work to stimulate the interest of the consuming public in the food value of dairy products has been continued during the year. This work has a close bearing on public health and it has been the policy of the branch to work in close co-operation with Dominion and Provincial Departments and all organizations—rural and urban—interested in this question. The development of the service, and the number of requests for co-operation constantly being received have made it necessary to double the staff. The following outline shows concisely the direction of effort and work accomplished:—

Publications.—Six publications, dealing with the food value of dairy products and prepared especially for housekeepers, have been issued, and a wide distribution made.

Exhibits.—Exhibits have been arranged at exhibitions and upon requests from various organizations. These exhibits are effective in pointing out the comparative food value and economy of dairy products and their special use in the diet. That they are worth while is shown by the interest of visitors and subsequent enquiries for information and assistance with local effort.

Motion Pictures.—A film, which is the property of this Branch, has been shown in many cities to call attention to this subject in an entertaining and convincing way.

Co-operation with School Officials.—Upon requests from school officials, this Branch has collaborated with them in carrying on this one phase of health education. In three cities, short talks dealing with the value of milk as food were given to each class, and the work was done more or less extensively in several other cities.

Milk Campaigns.—Milk campaigns have been conducted upon requests of local organizations. The co-operation of this Branch is given only upon request and where local conditions are favourable.

Market Division

ICED CAR SERVICE, FOR BUTTER, EGGS AND CHEESE

As usual, arrangements were made with the different railways to operate ".pick-up" refrigerator car services over specified routes for the transportation of butter and eggs in any quantity to Montreal, Toronto and Halifax. Refrigerator car service was thus available for shippers of small quantities, whereas otherwise it would only have been available for car load shippers. This service was in operation from early in May until the end of September.

Arrangements were also made with the different railway companies to operate a maximum of 160 iced refrigerator cars weekly during June, July and August, for the transportation of cheese to Montreal, Quebec and Halifax.

INSPECTION OF ICED BUTTER AND CHEESE CARS

One inspector was maintained at Toronto, one at Halifax and two inspectors, as well as a senior inspector, at Montreal, to inspect iced butter and cheese cars on arrival. Inspectors reported on the quantity of ice in the bunkers of the cars on arrival at destination, quantity of cheese, butter or eggs in the cars, condition of cars as to cleanliness, temperature and manner of stowage of the products and condition of packages. Unfavourable reports were transmitted to the responsible parties.

During the past year 1,257 refrigerator cars carrying 27,806,499 pounds of butter were inspected at Montreal, the average temperature being reported as 51·16 degrees; also 1,623 refrigerator cars carrying 383,190 boxes of cheese and 1,301 box cars carrying 222,065 boxes of cheese as well as 89 box cars carrying 519,285 pounds of butter, were inspected. Eggs arriving in refrigerator cars at Montreal amounted to 1,350 cases weighing 81,000 pounds.

At Toronto 337 refrigerator cars with an average temperature of 52.77 degrees were inspected. These cars carried 7,080,461 pounds of butter and 6,836 cases of eggs.

CARGO INSPECTION

Staffs of inspectors were maintained at the ports of Montreal and Halifax and during the winter months at the ports of St. John and Portland, Me. In special cases one of the Montreal inspectors visited Quebec in connection with the loading of produce at that port. Inspectors were also maintained at London, Liverpool, Manchester, Bristol, Glasgow and Cardiff in the United Kingdom. The presence of inspectors on the docks in Canada and the United Kingdom is not supported by any legislation, and inspectors have no authority over shipping companies, stevedores or longshoremen, but suggestions from inspectors were usually well received. Unsatisfactory conditions as to packing, handling, loading or discharging of perishable produce were reported to shippers and to other Branches of the Department interested in the particular commodity. Self recording thermometers, or thermographs, in perforated locked wooden boxes were placed in the different holds with perishable produce. On arrival in the United Kingdom the charts were removed from the thermographs and mailed to the Ottawa office, where blue prints were made and copies sent to interested shippers, shipping companies, and chief officers of the ships concerned.

During the past season reports were received concerning the perishable produce shipped on 445 ships, and 842 thermograph charts were received, blue printed and copies sent out.

DAIRY MARKET INTELLIGENCE SERVICE

As during several years past, a market reporting service has been maintained. A market letter was issued each Monday, commencing early in April and continuing until the end of the year, giving transactions at different country boards and auctions throughout Ontario and Quebec, as well as Toronto quotations, down to noon on the day of issue. This report was sent free of charge to anyone requesting the same. Prepaid market lettergrams were sent each Monday and Friday to different provincial authorities for further distribution in the different provinces. Collect lettergrams were also sent to anyone requesting them, giving quotations on cheese, or butter, or both.

DAIRY NEWS LETTER

The publication of the monthly Dairy News Letter was continued throughout the year.

ADMINISTRATION OF DAIRY INDUSTRY AND OLEOMARGARINE ACTS

There were ninety-one convictions during the year on account of violations of the above mentioned Acts, and fines and expenses totalling $1,269.35 were imposed. There were ten confiscations totalling 275 pounds of short weight prints of butter. This butter was sold and net proceeds of $60.81 remitted to the Receiver General.

Cold Storage Division

CREAMERY COLD STORAGE BONUS

There were forty-eight applications received for creamery cold storage bonuses during the year and nine applications were held over from 1921. Five were refused and seven held over to 1923. Forty-five were paid the full bonus of $100.

APPLE PRE-COOLING PLANT

A small experimental pre-cooling plant for apples was installed in the warehouse of the Waterville Fruit Co., Waterville, N.S., and commenced operations in August, 1922. The system of cooling is the first of its kind installed in Canada. Air is forced through crushed ice and salt by means of a fan at the rate of about 4,000 cubic feet per minute. The pre-cooling room is equipped with air ducts and a false floor for the even distribution of cold air. Return air ducts are placed on the ceiling and connect with the fan. The moisture from the melting ice is collected by baffle boards in the air ducts and carried off in a gutter before the air passes into the pre-cooling room. A temperature of from 30 to 32 degrees F. can be obtained by regulating the amount of salt which is mixed with the crushed ice. About 2,000 barrels of apples were pre-cooled during the season. It is the intention of the Branch to carry on pre-cooling experiments in this plant again next season.

COLD STORAGE NEWS LETTER

A new publication was started during the year in the form of a Cold Storage News Letter, which has been issued since October, 1922, monthly, and sent to every cold storage warehouse in Canada and to others interested in such matters. The aim of the Letter is to give items of information respecting the cold storage of perishable products, and general news of interest to those engaged in the cold storage industry.

HEALTH OF ANIMALS BRANCH

The work of the three divisions of this Branch is essentially one of protection of our live stock interests, our foreign markets, and our export food trade. Research work is also undertaken by the Pathological Division for the purpose of solving difficult problems.

Contagious Diseases Division

The activities of the Field Division are directed toward the control and eradication of contagious diseases of live stock within our boundaries, and the prevention of the introduction of infection from outside sources.

The importation of animals from overseas has for many years been controlled by a permit system, and permits have not been granted for importations from countries where serious infectious diseases are known to exist.

This precaution has undoubtedly played an important part in keeping this country free from these diseases. As an additional precaution, cattle, other ruminants and swine are taken direct from the boat to our quarantine stations at the seaboard, where they are detained for a suitable period and kept under constant supervision by a veterinary inspector.

Owing to the prevalence of serious diseases of live stock in the countries of Europe, importations of cattle, other ruminants and swine from the Continent have not been permitted for many years, and it has been necessary to exercise caution to prevent the introduction of infection through the channels of commerce. With this object in view suitable regulations have been enforced in connection with the importation of hides, wool and hair.

It has unfortunately been necessary to prohibit the importation of cattle, other ruminants and swine from England and Jamaica owing to outbreaks of foot and mouth disease.

Importations have, however, been permitted from Scotland, provided the animals have been in that country for sixty days immediately preceding the date of embarkation.

The regulations governing the importation of animals from the United States are similar to those enforced by the American authorities upon importations from Canada.

Pending the removal of the British embargo on April 1st, arrangements have been made to comply with the Ministry's regulations governing Canadian store shipments. As the expansion of this trade and its very existence depends to a large extent upon the strict observance of these requirements, an opportunity must not be permitted for the least criticism. Measures have therefore been taken to supervise these shipments from point of origin to the British market, and a veterinary inspector of this Branch will accompany each shipment overseas.

The first three boats carrying approximately 1045 Canadian stores sailed from St. John, N. B., during the last two weeks of the period covered by this report.

An organized field staff of veterinary inspectors is employed in controlling contagious diseases within our boundaries. Full information and statistics are outlined in the special report of the Veterinary Director General for the year 1922-23.

GLANDERS

A policy of compulsory slaughter is enforced in the control of this serious disease of horses, mules and asses.

There were approximately 247 horses slaughtered for this disease throughout Canada during the past year, 232 of these being in the provinces of Manitoba, Saskatchewan, and Alberta.

The policy of testing contact horses with mallein, and slaughtering reactors has enabled the Department to keep the disease under control, but complete eradication is a difficult problem.

It is frequently impossible to trace all contacts, and as many infected animals do not show symptoms of disease, no suspicion exists with regard to them. They are, however, centers of infection, but it is not until they, or others infected by them, develop unmistakable symptoms, that the Department is notified.

DOURINE

No cases of this disease have been detected for the past two years, and although it seriously threatened our horse breeding interests some years ago, it has been possible to eradicate it by means of a laboratory diagnostic test, and the prompt slaughter of infected animals.

MANGE

Mange in horses exists to a limited extent but only 62 animals have been found to be affected throughout this country during the past year. All infected animals and contacts are promptly quarantined and treated under the supervision of a veterinary inspector.

The situation with regard to cattle mange is satisfactory, as very few cases of this disease have been found in the old infected areas.

Unfortunately, owing to infected animals on the "Better Bull Train" in Saskatchewan, infection was spread to several premises, and more cases of this disease have had to be dealt with in this province than in Alberta and Manitoba, the only other provinces in which this disease was found. A total of 413 infected animals necessitated the quarantine and treatment of 14,114 cattle, as it is essential to deal also with all possible contacts.

SHEEP SCAB

No cases of this disease have been found in Canada, except in the provinces of Alberta and British Columbia.

An outbreak of scabies was detected in Alberta, and upon investigation it was found that a number of exposed sheep had been shipped to British Columbia. These shipments were traced, found to be diseased, and were therefore quarantined for treatment. A total of 113 sheep were found to be affected in these two provinces requiring the treatment of 25,174 animals.

HOG CHOLERA

The provinces of New Brunswick, Nova Scotia, Prince Edward Island and the Yukon Territory have been free from this disease, but the Department has dealt with outbreaks in the other provinces. The outbreaks were fortunately not of a serious nature and were promptly controlled, requiring the slaughter of 465 hogs.

This highly infectious disease has not been so prevalent since the policy of supervising the feeding of garbage was put into force.

TUBERCULOSIS

The importance of taking suitable measures for the control of bovine tuberculosis cannot be overestimated, as there is indisputable evidence that this disease is steadily increasing, not only in cattle, but also in hogs.

Authorities state that the tuberculous cow is the chief disseminator of infection, and that if bovine tuberculosis was eradicated, the disease would practically disappear in our other domestic animals.

While the Department realized the necessity of control measures, active steps could not be successfully taken until live stock owners demanded action.

The suppression of this disease is a very difficult problem, chiefly because of its wide distribution, its chronic tendencies, and the enormous amount of money required for compensating owners of diseased animals.

The demand, however, for tuberculosis free stock is rapidly increasing, largely owing to active control measures adopted in the United States and other countries, and because it is now much more difficult to sell breeding or dairy animals, as the purchasers are insisting upon buying them subject to the tuberculin test.

Requests for assistance under the policies of the Department from municipalities and stock owners have been so numerous and constant that it has been necessary to maintain waiting lists.

80,398 tuberculin tests have been conducted under the Accredited Herd plan, 5,453 reactors have been slaughtered, and $533,576.63 awarded in compensations; as a result of this policy there are now in Canada 435 tuberculosis free herds, 1,027 herds undergoing accreditation, and 165 herds are on our waiting list.

Twenty-four municipalities are taking advantage of the Municipal Tuberculosis Order, which has necessitated the conducting of 74,498 tuberculin tests, the slaughter of 7,860 reactors, for which $341,317.66 has been awarded in compensation.

Many municipalities are awaiting assistance under this order, while many enquiries are constantly being received with regard to it.

Representations having been made with reference to the many advantages of a policy for the eradication of this disease by areas, the question was given careful consideration, and it being decided that it was sound and advisable, regulations governing restricted areas were passed by Order in Council, December 11, 1922.

Soon after the passing of these regulations the Provincial Government of Manitoba requested assistance under this Order for an area in the Carman district, comprising the townships of Roland, Thompson, and Dufferin.

The first test of all cattle in this area was begun in a systematic manner on February 1st, but it has not been possible at this date to obtain complete statistics covering this work.

In addition to these three policies, the supervised plan is available to stock owners who desire to maintain tuberculosis free herds. No compensation is paid under this plan, but the Department places at the disposal of the owner the services and advice of its veterinary officers free of charge. Just as much care is taken to clean up these herds as under the other policies, and owners who have taken advantage of this plan upon finding that new herds could not be accepted owing to shortage of funds under the other policies are to be commended.

The tuberculin used in this work is manufactured by the Pathological Division of this Branch.

ANTHRAX

Only one case of this disease was confirmed in this country during the past year. Anthrax has never been prevalent in Canada, only isolated outbreaks occurring occasionally in certain districts.

RABIES

This disease has not existed in this country during the period covered by this report.

INSPECTION OF STOCK CARS AND YARDS

An organized force of inspectors is maintained for the purpose of supervising the cleansing and disinfection of railway stock yards, corrals, chutes, and stock cars.

With a view to disinfecting stock cars constantly and systematically an order is enforced which requires all empty stock cars passing through certain definite points throughout this country to be held and disinfected at these points. In addition to the inspectors stationed at the points outlined in this Order, a number of travelling inspectors are employed who cover definite territories, and supervise the work of local men.

QUARANTINE STATIONS AND INSPECTION PORTS

Quarantine stations and inspection ports are maintained on the Atlantic and Pacific coasts and along the International boundary. Suitable regulations are enforced with regard to the importation of all animals from foreign countries.

Meat and Canned Foods Division

The work of this division, which is both economic and hygienic, varied little in general character from that of the preceding year. It was, however, materially increased as a result of the growing activities in connection with the

manufacture of food products, and special investigational work along the line of food standardization, coupled with strict enforcement of the laws governing importations of food products, which renders chemical and bacteriological examination together with grading imperative, in order that nothing but sound, wholesome products, conforming to Canadian standards, may be permitted to enter consuming channels.

Apart from the regular activities of this division, meetings of many kinds were attended by its representatives in order that every assistance might be rendered those interested in the questions relating to the preparation of the different food materials coming within the purview of the Meat and Canned Foods Act.

During the fiscal year ending March 31, the food manufacturing establishments in Canada under the supervision of officers of this division, comprised: meat-packing, jam, pickle and fruit canning factories, condensed and evaporated milk establishments and apple evaporators.

In the meat-packing establishments the total number of animals given ante and post-mortem examinations was 3,499,677 divided as follows:—

Cattle—841,470, an increase over last year of 15.39 per cent.
Sheep—623,342, a decrease under last year of 4.79 per cent.
Swine—2,034,865, an increase over last year of 17.81 per cent.

In the establishments wherein poultry products are prepared for food, the number of post-mortem examinations conducted was 76,674.

The number passing inspection as sound, wholesome, healthful and fit for human food, was: cattle, 830,001; sheep, 622,580; swine, 2,029,426; poultry, 74,580.

The number failing to pass inspection and condemned as unfit for food, was:—cattle, 11,469; sheep, 762; swine, 5,439; poultry, 2,094.

On reinspection, 1,002,332 pounds of meat and meat food products that had become sour, tainted, or otherwise unfit for food since the inspection at the time of slaughter were condemned.

In the canning establishments a vast amount of constructive work has been carried on by officers of this Division, who have been constantly striving to improve the sanitary conditions in these establishments where food is being prepared, as well as render every assistance to those engaged in this all-important present-day Canadian industry.

The quality of the products manufactured, has during the past year shown considerable improvement, due chiefly to improved methods of handling and preparation, and this will conduce to placing Canadian food products on a very high plane, both in this country and on the foreign markets.

The demand for greater care in the production of clean, wholesome food products is being made by progressive manufacturers in a most gratifying manner. Many are discarding or radically modifying old systems and replacing them with modern, up-to-date ones of a more sanitary nature. Throughout the industry there is not only the spirit of co-operation but an earnest effort to obtain information as rapidly as possible because of the growing appreciation of the value and necessity for research work along the lines tending towards the conservation of perishable foodstuffs.

A vast amount of research work has been carried on during the year in connection with the composition of the pure fruits, and fruit juices used in the manufacture of jams, jellies, etc., and this is of great value in interpreting the results obtained in the analysis for adulteration of these various food materials. The experiments conducted cover samples from extremely variable sources and represent a large range of varieties.

Investigations regarding fundamentals in connection with the putting up of the different food materials that come within the purview of this Division's activities are being continually carried on, in order that new truths may be learned for future application. The results obtained from these investigations are of the utmost practical value. Every effort is being made to bring the results of this work and the industrial application of same to the attention of those most vitally concerned, demonstrations being carried on wherever the opportunity affords.

It is the intention of those entrusted with the administration of this division to have the essential facts distributed to the industry as all work conducted is essentially for immediate betterment along all the lines.

Plans for future experimental work in connection with dehydration are being formulated in order that every assistance may be rendered those interested in this phase of food preservation. The results accruing from work along this line should be increasingly valuable to the producer, manufacturer and consumer alike.

The canning of foods has now assumed gigantic proportions. The methods employed in the different establishments wherein food is prepared in this way have been greatly improved and it may be stated that modern scientific canning leaves little to be desired.

The past year has demonstrated very forcibly the great advantages accruing to the country both economically and hygienically from the supervision and control which this Division exercises over the establishments manufacturing food products as well as over foreign imports.

Only one case of food poisoning, has been reported in this country through eating materials put up under Federal supervision.

In connection with imports it might be well to point out that following the outbreak of food poisoning in Loch Maree, Scotland, during the early part of the year, which was of a most disastrous nature, all imported canned meat food products were held at the port of entry until such time as a chemical and bacteriological examination was conducted.

Not only has the scope of the work been extended but the influence of the Division has grown materially in pure food matters. Were it not for the thorough and efficient system of inspection maintained by its officers, Canada to-day could not export one pound of meat or meat food products, as other countries demand that these be covered by certificates guaranteeing such shipments as sound, wholesome, healthful and fit for food.

The standardizing of canned fruits and vegetables under the Meat and Canned Foods Act has considerably enhanced the quality of the products put up and has been conducive to most beneficial results, economically, as evidenced by the increasing demand for these products of Canadian origin on the foreign markets. Complete control is exercised over same; no shipments being allowed to enter into export trade unless covered by certificates.

Pathological Division

The Laboratories and Research Stations of the Pathological Division of the Health of Animals Branch, have had the busiest year in their history, and have carried out a very great amount of highly important work which includes the manufacture of various biological products on a large scale, laboratory examinations of pathological material, meat and canned foods, milk, water, specimens, etc., also special investigations and research on problems of importance to the live stock industries.

BIOLOGICAL LABORATORY, OTTAWA

Special efforts have had to be made to meet the very great increase in the demand for our Biological Laboratory products; 521,814 doses of the different preparations mentioned below, have been manufactured and issued, the increase in production over the previous year being 175,325.

Tuberculin.—Three different kinds of tuberculin, for the subcutaneous, intradermal and ophthalmic tuberculin tests, are made and a total of 482,102 doses have been issued as compared with 300,755 for the previous year. This large amount of tuberculin is required in connection with bovine tuberculosis eradication throughout the Dominion. It is essential for the success of this work that the tuberculin should be prepared with the highest possible skill and that it be accurately standardized and tested before being put into practical use. Our tuberculin has given uniformly satisfactory results, and there is every reason to believe that the preparation of this product in our laboratories has reached a very high standard of excellence.

Mallein.—The control of glanders is made possible by the testing of all animals concerned in an outbreak, with the laboratory product known as mallein; 17,750 doses have been made and issued to our inspectors during the year, as compared with 10,240 for the previous year.

Blackleg Vaccine.—21,310 doses were issued during the months of April and May, 1922. The manufacture of this product in our institutions has now been discontinued, for the reason that our object, to induce owners of live stock to vaccinate and protect their animals against blackleg, seems to have been fully accomplished and that blackleg vaccine can now be obtained very easily and cheaply from a large number of commercial firms.

Anti-abortion Vaccine.—Small quantities of this vaccine have been issued to practising veterinarians, free of charge,for the experimental treatment of a limited number of suitable herds. Similar experiments are being made practically all over the world, contagious abortion of cattle being apparently a world-wide condition. The efficacy of vaccination is still under question, but there would appear to be no doubt that the administration of a very carefully prepared living culture of the *Abortus bacillus* to suitable animals in an infected herd, does result in a reduction of the number of abortions. Abortion vaccines are very much advertised by commercial firms and can easily be procured at a reasonable price.

It is not desirable that our laboratories should compete with commercial firms in the manufacture of veterinary products required by veterinarians in their general practice but we consider it essential to make such products as tuberculin and mallein, required by the veterinary inspectors of this Branch in their work of controlling such important diseases as tuberculosis and glanders. The demand in this connection, which has been increasing year by year, reached such a point that it had become absolutely impossible to prepare these products in the quantities required, in the small laboratory which has done service for many years at the Central Experimental Farm. More spacious quarters had to be provided and a search was made for a suitable building in the city of Ottawa. Finally, the old residence, known as the Devlin residence, located on Cliff Street, was taken over and converted into a laboratory, and the move into these quarters was made during the month of October. This building, constructed as a residence, of course does not permit of modern laboratory facilities and conveniences. We can only consider it as temporary, hoping that it may soon be possible to construct the modern laboratories which must be regarded as essential for such highly technical laboratory work and investigations.

It is interesting to note that our manufacture of these biological products during the past year—products which are indispensable in our work of controlling disease and which if not manufactured by us, would have to be bought from outside sources, saves the Department a bill for $78,272, if the value of these products is based on the low price of fifteen cents per dose, which is lower than the market price.

Laboratory examinations, diagnoses and tests.—Six hundred and fifty-six pathological specimens and carcases, blood samples, meats and canned foods, contaminated water, etc., have been received and reported upon.

Special Investigations and Research.—The great amount of routine work indicated in the foregoing and to which we are compelled to give first attention has made it impossible to meet all the requests made for special investigations and research. However, work is being carried on, as time permits, in connection with parasitical infestations causing severe losses in sheep, swine and foxes, hemorrhagic septicaemia, botulism, forms of forage poisoning and the chronic progressive forms of pneumonia in calves, sheep and swine.

RESEARCH STATION, HULL, P.Q.

At this Station the study of different phases of the tuberculosis problem is continuing, although the laboratory accommodation is very primitive. We have been enabled to conduct some important experiments on animals in connection with this disease. A small number of cattle, horses and sheep are maintained for experimental purposes and, in addition, a large number of rabbits, guinea pigs and small laboratory animals are bred and utilized for various tests.

It has been necessary to construct a small animal house for the accommodation and breeding of these laboratory animals. This building was erected under the supervision of the Public Works Department and finished in December, 1922. The testing and standardizing of the products manufactured at the Biological Laboratory is carried out at this Station. As a result of some painstaking research work we have devised some entirely new methods of testing and standardizing these important products, and it is probable that our methods will be adopted in other countries.

Glanders in Man.—The medical authorities in Winnipeg have consulted us in connection with two cases of glanders in man. We suggested that a trial be made of an immune horse serum which we had prepared at this Station, in connection with our testing of mallein. Quantities of this serum were forwarded to the physicians in charge of the cases and the patients were duly treated, with the result that, instead of the usual fatal termination of glanders in man, very rapid recoveries took place and a complete cure has been reported.

The importance of bovine tuberculosis and the enormous cost of eradication warrants extensive and continuous research; also the erection of the necessary stables and laboratory for that purpose. The possibilities of immunization, prevention and other means of combating this wide-spread infection should not be overlooked. Any advanced knowledge or a new discovery in connection with the control and eradication of this supremely important disease may well be the means of saving millions of dollars.

VETERINARY RESEARCH STATION, LETHBRIDGE, ALTA.

Routine work at this Station includes the laboratory blood tests in connection with dourine of horses and the examination of specimens from the other divisions of this Branch and from outside sources. Seventy-seven tests and examinations were made and reported upon.

Special investigations have been made on the cause and treatment of lip and leg ulceration in sheep, bot anaphylaxis or "Jiggers" in horses, plant poisoning, cattle mange, swamp fever of horses and contagious abortion of cattle.

A disease of cattle in the Edmonton district, affecting up to fifty per cent of cattle in different herds, with some resemblance to actinomycosis, was investigated. By laboratory work and experiments the condition was shown to be due to a streptothrix. The condition is being treated with potassium iodide, with good results.

The slaughter of buffalo at Wainwright, Alta., was attended by our pathologist. Considerable pathological material was collected and taken to the laboratory for study. A full report of the various pathological conditions encountered in these buffalo is in preparation.

The pathologist in charge of this Station spent two months in the laboratories of the United States Bureau of Animal Industry, Washington, D.C., for studies in parasitology and on contagious abortion of cattle, and gained some very valuable information.

VETERINARY RESEARCH STATION, AGASSIZ, B.C.

The work at this Station and of the pathologist in charge is devoted mainly to the study of pathological conditions which seem to be more or less peculiar to the province of British Columbia. In some districts of the province the soils, plants and forage crops are known to be deficient in calcium, phosphoric acid and other minerals and the apparent connection between these deficiencies and certain diseases is under investigation, particularly red-water in cattle, premature lambing or abortion, goitre, hairless pigs and immature foals.

Further observations have been made of Bovine Coccidiosis, which seems to be increasingly prevalent in the province of British Columbia. Methods of control have been devised and these when put into practice have given satisfactory results. Further information is being obtained in regard to bracken poisoning and other forms of plant poisons.

Various meetings are attended by the pathologist in charge, and useful information and advice to live stock owners is distributed. The laboratory routine work included the examination of 282 specimens received during the year.

FOX RESEARCH STATION, CHARLOTTETOWN, P.E.I.

A close study has been made of the parasites of foxes and of the efficacy of various remedies which are marketed for the control of parasites in these animals. The pathologist in charge has demonstrated the great value of oil of chenopodium and carbon tetrachloride for the treatment of intestinal worms, and it is estimated that the employment of those remedies now means the saving of many thousands of dollars to the fox breeders. In connection with the export of foxes to the United States, a great deal of laboratory work has been necessitated in the examination of fox feces.

A small experimental station for work on live foxes is maintained just outside of Charlottetown, while in the city itself, new quarters have been fitted up as a laboratory.

In the course of the year a great many of the fox farms have been visited and the meetings of the Fox Breeders Association attended. The information and advice given by our pathologist on these occasions has been very highly appreciated by the fox farmers.

During the year a very complete bulletin entitled "Fox Farming in Canada" was published. This bulletin includes the work done by the pathologist in charge of the Fox Research Station, Charlottetown, and the work done by the Biochemist in charge of the fox investigation carried on at our Research Station, Hull, P.Q., in co-operation with the Research Council.

LIVE STOCK BRANCH

Horse Division

During the fiscal year just closed a very decided improvement has taken place in the horse industry. There is a steadily growing demand for horses for farm, bush, and city work at fair prices, while the demand for saddlers and hunters is greater than the supply. There is also a good market for horses of the same type, though lacking somewhat in quality for light delivery, police and remount work. Taken by and large the year just closed has been by far the most satisfactory from the horseman's standpoint, of any since 1914. During the first dozen years of this century, horses were shipped to the western provinces by the thousands. From the outbreak of the War until a couple of years ago few were shipped in either direction. Last year, however, while a few carloads went from Ontario to the western provinces, particularly British Columbia, in the neighbourhood of two hundred and twenty-five carloads came through Winnipeg, enroute to Ontario, Quebec and the Maritime Provinces, amongst which were a few carloads consigned to Prince Edward Island. This will show the change that has taken place during the last few years. In the finding of a market for many of these horses, officers of the Live Stock Branch lent very valuable aid which has been acknowledged by breeders and horsemen generally.

People are taking up riding and hunting and accordingly saddler and hunter horses are much in demand. This is particularly true in the United States where each city of any size has a number of riding or hunting clubs and accordingly there is a steadily growing demand for horses of this type. In fact, at the present time, dealers are unable to pick up sufficient good quality animals to supply the demand.

The great improvement in the market for horses is bound to have its effect on breeding operations and for this reason, each farmer or breeder should, before deciding what to breed, look over the whole situation carefully and be governed by the market demands in conjunction with what he himself can best produce. In the past, in many sections of Canada, market demands were not considered, while sticking to one breed, and thus systematically grading up was seldom practised. The mixing of breeds coupled with lack of feed and care together with bad management was largely accountable for the fact that there are thousands of nondescripts to-day in the country for which there is no market. If the breeder of the future is going to be successful he must raise a type of horse for which there is a market demand. If he is breeding draught horses, then he should by proper selection, feeding and management, aim to produce a heavy weight draughter that will find a market wherever draughters are wanted. On the other hand, if he is raising light horses, by making use of the proper breed of sire, he can produce saddlers and hunters, or failing in this remount, fire, police and delivery horses. Thus if a horse lacks the quality to make him a high class hunter, he will still be useful in one of the other two classes.

As normal conditions return there is bound to be a steady demand for horses. As it takes some years to develop a horse, Canadian farmers and

breeders would do well to commence now, otherwise there is bound to be a decided shortage in our horse supply within the next half-dozen years. The successful breeders, however, will be those who decide on a definite marketable type, and then by careful selection, care and management, produce that type.

CLUBS

The policy of making grants to clubs that hire approved stallions was started in 1915 and has gone steadily on even under the adverse circumstances of the war years and the even more unfavourable ones from an economic standpoint, that followed. The scheme which is based on the "Scottish Premium System," provides that any district which forms a club for the purpose of hiring an approved pure-bred stallion, and which complies with the regulations, is paid a grant equal to one-third of the amount paid by the club members as fees to the stallion owner. This policy has been favourably commented on, not only by the best of Canadian breeders, but also by horsemen of other countries. It is undoubtedly the only policy of its kind in existence to-day, whereby the owners of mares as well as the proprietors of good stallions are both protected. The former are enabled to secure the services of a first-class horse at a very nominal fee, while the latter are assured by contract, of a certain definite return from the service season. Thus the keeping of good stallions is made possible, while community breeding, better feeding, care and management is encouraged amongst the mare owners.

The organization of communities for the purpose of hiring a stallion has in many cases been only one phase of the work. Colt shows have been established, which have done much to create an interest in better breeding and at the same time have been the cause of leading the breeders to study all phases of the question in an endeavour to produce winners. Community horse sales have also been carried on in certain districts; a healthy rivalry has also sprung up in sections as to which club will secure the services of the best stallion. Another point which should not be overlooked is the fact that clubs are required to stick to one breed and thus grade up a definite type in the community. Clubs are also protected in that all stallions are inspected by experienced horsemen and judges so that only sound, individually excellent animals that possess the size and characteristics of the breed required will be allowed to stand for service in a club. Thus the ordinary breeder is given double protection in using a club horse. As an example of what this inspection means, it might be pointed out that in one Province in one year, twenty-three new stallions were hired, for service; of this number only ten passed inspection. The other thirteen were disqualified because of some hereditary unfitness or malconformation which rendered them unfit to be used by men wishing to improve their horse stock. In the majority of cases the clubs in question thought they had hired extra good animals and their officers were much surprised when notified to the contrary.

The steady elimination of all unsound, also undersized stallions, and those that from bad conformation are unfit to produce good quality horses is slowly but steadily having its effect. Stallion owners today admit, particularly in the draught classes, that the good big ones are the horses wanted and recent importations have been made with this in view.

BREEDING STATIONS

In 1921 owing to representations made by various parties and after a study of the conditions, it was decided to encourage in certain suitable districts, the breeding of saddlers and hunters, remounts, fire, police and delivery horses by the use of good, big Thoroughbred stallions of the Cross Country Hunter type

In order to make each district a real breeding centre, it was decided that at least three stallions should stand for service under the supervision of one man. A grant was made to each station, sufficient to ensure the stallion owner against loss and to enable him to stand the stallions at a service fee which would be low enough to compete with the ordinary horse standing for service in the country. All mares bred to these stallions must be sound, weigh not less than 1,050 pounds and up to 1,400 pounds and be free from coarseness; head of medium size; neck clean cut; the hind legs properly set; the hocks free from bogginess and the feet of normal size. By mating such mares to selected stallions it has been found that a high percentage of saddlers and hunters can be obtained while the others are useful for other work above outlined.

The first station was started at Roddick Lake where three splendid stallions are standing for service and where already good results are being obtained. In 1922, two more stations were added, one at Chaffey's Locks, Ont., and one at Millarville, Alta. In both cases, good, big thoroughbreds of the required type stand for service. As an evidence that the horses at these stations met with the approval of the breeders of the district, it is only necessary to say that the average number of mares bred to each stallion was seventy, and the outlook for the next season is even better. Requests have also been received for additional stations for the next year.

In connection with these stations, colt shows, limited to the colts sired by the stallions, are held. Already two shows have been held at Roddick Lake which have been particularly successful. It should perhaps be said in passing that a thoroughbred stallion had been standing in the district for some years before, and that the colts out of even ordinary mares have been selling at fair prices. It is hoped in a few years to make each of these stations the centre of a district where buyers will readily go, knowing that they can procure in numbers, horses of a required type.

SILVER BLACK FOXES

The silver black fox industry in Canada had its inception on Prince Edward Island in the vicinity of Tignish, somewhere in the late eighties of the last century. Of its rise and growth much has been written. All that need be said is that the industry has now spread from Atlantic to Pacific and is firmly established on a solid business basis.

In 1920, the Canadian Silver Black Fox Breeders' Association was incorporated and a stud book opened for the registering of all foxes that came up to a required standard, and that had been bred in captivity for a certain number of generations. At the request of the breeders, the Live Stock Branch took over the inspection of the foundation stock. To date, in the neighbourhood of 10,000 foxes have been inspected; tattooed in the ears for identification; and duly registered in the office of the Canadian National Live Stock Records. Although breeders have until the end of 1925 to get in applications for their first inspection, nevertheless, it is hoped to do the most of the work during the next two years.

Inspection can only be made from late September until about the middle of January. The work cannot be started before September, owing to the fact that it is the quality of the fur that makes silver foxes valuable and accordingly it is necessary to see them when their winter coats are either growing, or in prime condition. Again, inspection must be stopped about the middle of January, as at that time the breeding season starts and ranches are invariably closed to all except those in charge.

Parties deciding to go into fox ranching should buy only foxes that are registered in the Canadian National Records, properly tattooed with the breeder's

initial in one ear, and the registered number in the other and for which the seller can supply a corresponding Certificate of Pedigree furnished by the above mentioned Records Board.

The question is often asked as to the future of the silver fox industry. In reply, it should be said that there is a steadily increasing demand for furs of all kinds while at the same time the supply from the wilds is just as steadily decreasing. Accordingly, in order to keep up the supply, it will be necessary to breed more and more fur bearing animals in captivity. As the black fox produces the highest priced fur and one which cannot be successfully imitated, his pelt is bound to be ever in demand.

Cattle Division

DISTRIBUTION OF PURE-BRED BULLS

During the past ten years the Live Stock Branch has interested itself directly in securing a more widespread use of pure-bred bulls by farmers throughout Canada. Since the spring of 1913, bulls have been loaned to specially organized associations in newly settled districts and backward sections of the older provinces. Up to the present time, 3,783 bulls, representing an investment of nearly $600,000, have been loaned under this policy.

The improvement in the young stock and the stock annually marketed has in recent years been very noticeable in many of the districts in which the Department's bulls have been standing for service for several seasons. It is not the policy of the Branch to continue assistance to a district after the farmers there are in a position to purchase their own sires and no bulls are discarded until their usefulness as sure and satisfactory sires is over. The aim has always been to avoid making the policy an extravagant one. While, as already stated, approximately $600,000 has been invested in bulls, the Branch has to date turned in from the sale of old and discarded bulls, nearly $150,000. The bulls on hand at the present time, numbering approximately 1,500, cost the Branch over $300,000. Figuring these bulls as an asset and adding the $150,000 already turned in from the sale of discarded bulls, leaves only $150,000 as representing the net amount on the total capital investment of $600,000 which in ten years' time has actually been absorbed in carrying on the work. During the past three seasons the Branch has been securing a large proportion of its supply of bulls from the various provincial consignment sales.

SIRE PURCHASE POLICY

The above policy was inaugurated by the Branch two years ago with a view to encouraging the more general use of properly selected sires and of providing an agency through which farmers could secure such sires with the least possible expense and difficulty.

Under the terms of this policy the Branch is prepared to fill orders for bulls, boars and rams under certain conditions. An applicant is required to deposit a percentage of the purchase price with his order. The sire when secured is shipped to him on approval. If no complaint regarding the animal is made within three days after delivery the balance of the purchase price becomes due.

In the provinces in which this policy has been operative, a considerable number of bulls have been purchased under its terms for farmers who were not in touch with breeders and who were so situated that they could not start out to purchase a sire for themselves without running up a travelling expense bill out of proportion to the amount of investment involved. This policy has

also been used in handling bulls through exchange stables in Ontario and in purchasing bulls for the Live Stock Improvement Train which operated in Manitoba in the spring of 1922. In the latter cases the bulls were not, of course, purchased on order but were bought outright, exposed for sale at original cost price, plus freight and maintenance charges, and any not disposed of were utilized in connection with the loan policy. In the past two years upwards of two hundred bulls have been sold to farmers under this phase of the policy.

SCRUB BULL CAMPAIGN IN ONTARIO

During the year 1922, the Live Stock Branch co-operated with the Ontario Department of Agriculture and with the Live Stock Improvement Committee in promoting an anti-scrub bull campaign in a number of selected counties. One officer of the Branch has devoted all of his time to this work and has assisted the agricultural representatives in several counties in the organization and carrying on of their campaigns. Exchange stables were opened during the year at a few central points through which a number of carefully selected bulls were sold to farmers interested in improved stock as a result of the campaign.

A grant of $2,500 was made to the Live Stock Improvement Committee to be used for advertising purposes. As an outgrowth of the work carried on in 1922, the Live Stock Improvement Committee recommended to the Provincial Department that a Better Live Stock train be run over the Canadian National and Canadian Pacific lines in Ontario during the months of March and April, 1923. The railways co-operated in equipping a special train for this purpose and support was given by the Toronto Live Stock Exchange, Industrial Council of Meat Packers and the Co-operative Wool Company, Limited. A considerable number of bulls purchased from the Branch by Ontario breeders were sold off this train to farmers at the different points visited. A noticeable feature of this phase of the undertaking was that really high class bulls were easier to sell at correspondingly higher prices, than were the ordinary bulls at half price.

CAR LOT POLICY

This policy provides for payment by the Live Stock Branch of reasonable travelling expenses of farmers residing in Canada who purchase stock at central stockyards for return to country points. In Eastern Canada, the assistance rendered is confined to purchases of female breeding stock, cattle, sheep, or hogs. In Western Canada, the policy covers stocker and feeder cattle in addition to breeding stock. Purchasers have to fulfil certain requirements of the Department in connection with their shipments and to give satisfactory assurance that none of the stock is being purchased for speculative purposes.

This policy has proved very valuable as an educational agency in that its terms have encouraged farmers from different parts of the country to visit the stockyards and to become acquainted with methods of doing business at these points and has unquestionably played a very important part in encouraging the return of unfinished cattle and sheep to country points for further feeding and also in the return of young female breeding stock, particularly from yards in Western Canada. The cost to the Department of all cattle shipped under the terms of this policy during a period of three years averaged only fifty-nine cents per head. The average cost of all sheep shipped during the same period was slightly over eighteen cents per head.

CAR LOT SHIPMENTS TO DECEMBER 31, 1922

Year	Steers	Heifers	Sheep
1916 (3 months)	6,208	3,113	1,407
1917	11,334	10,411	1,800
1918	20,703	18,745	7,978
1919	22,490	17,550	9,408
1920	14,009	7,957	6,317
1921	8,599	7,659	9,968
1922	5,681	4,897	3,121
	89,024	70,332	39,999

FREE FREIGHT POLICY

The Free Freight Policy was inaugurated in the fall of 1917 by the Live Stock Branch in co-operation with the railway companies of Canada with a view to preventing, as far as possible, the slaughter or exportation of useful heifers, young ewes, and young sows offered for sale on the open market at central stockyards. Under this policy farmers are entitled to ship from stockyards to country points female breeding stock of the classes mentioned without payment of freight charges on same provided the owner has not purchased for speculative purposes.

Since the inception of the policy, September 21, 1917, shipments under its terms from the different yards up to December 31, 1922, number as follows:—

Name of Yard	Heifers	Ewes	Sows
Edmonton	26,565	10,159	156
Calgary	33,436	47,754	155
Winnipeg	25,397	10,523	311
Prince Albert	146	160	40
Moose Jaw	484	350	
Toronto	2,478	14,138	
Montreal	193	452	11
	88,699	83,536	673

Shipments for the twelve months ending December 31, 1922, were 10,385 heifers and 7,984 ewes.

BOYS' BREEDING CLUB POLICY

The objective of this policy, which was inaugurated a year ago, is to increase the ultimate profits of the cattle industry,—

(1) By stimulating and promoting interest on the part of farm boys in breeding, feeding and marketing of good cattle.

(2) By encouraging a closer study of production and marketing costs with a view to eliminating wasteful and unproductive methods and to realizing the highest net returns for the product marketed.

(3) By demonstrating the importance of maintaining a proper balance between individuality and productive capacity in appraising breeding stock.

(4) By increasing the commercial value of the cattle of the country through wider distribution of good breeding stock.

(5) By increasing the value of the cattle of the country through the principle of community breeding.

(6) By providing a means of demonstrating the importance of proper feeding and management in developing and thereby increasing the value of young breeding stock.

SESSIONAL PAPER No. 16

During the season of 1922 a number of clubs were organized under this policy, particularly in Western Canada. In the Maritime Provinces and in Quebec the organization of clubs under the dairy section of the policy has, in the case of certain breeds, been limited only by the available supply of suitable heifers. The greatest care has been taken to select only well-bred heifers of good individuality and the co-operation of the breeders has been secured in pricing these heifers to the boys at figures which should enable them to finance their purchases out of the production of the heifers themselves. In operating the clubs each boy is required to keep a careful record of the season's operations both as regards the heifer herself and as regards her progeny. Competitive features provide incentive and interest and by linking up the work with the Distribution Policy and with the Record of Performance, provision has been made for continuous constructive work from season to season.

RECORD OF PERFORMANCE FOR PURE-BRED DAIRY CATTLE

During the year 1922-23 there has again been a large increase in the number of cows entered in the test. Applications for entry of three thousand eight hundred and sixty-eight cows were accepted during the past year, an increase of eight hundred and eighty-two over the preceding year. At the present time cows are entered for the test on seven hundred and twenty farms throughout the Dominion as compared with six hundred and forty farms at the same date last year. The present staff of inspectors is quite inadequate to cope with the work and it has therefore become necessary to apply for the appointment of additional men.

As forecasted, the rules of entry have been amended so that now applications for entry are accepted only on condition that the owner enters all his pure-bred milking untested normal cows in the test. The object of this rule is to stop the practice of some breeders entering one or two of their cows and giving them special care in order to make records which would be, in many instances, considerably higher than the average production of the entire herd.

During the past year, a number of excellent records have been made in the Record of Performance, the outstanding one being that of the Holstein-Friesian cow "Agassiz Segis May Echo" owned by the Dominion Government at the Experimental Farm, Agassiz, B.C. This cow holds the world's butter-fat record for all breeds and ages having produced in 365 days, 30,886 pounds milk; 1,345 pounds butter fat.

Following is a brief summary of the year's work:—

NUMBER OF COWS ENTERED FOR THE TEST

Ayrshire	1,085
Brown Swiss	5
French-Canadian	69
Guernsey	110
Holstein-Friesian	1,350
Jersey	860
Red Polled	20
Shorthorn	369
Total	3,868

NUMBER OF RECORD OF PERFORMANCE CERTIFICATES ISSUED

	Cows	Bulls
Ayrshire	359	12
French-Canadian	24	1
Guernsey	63	4
Holstein-Friesian	522	21
Jersey	482	15
Red Polled	9	1
Shorthorn	139	3
Totals	1,598	57

TOTAL NUMBER OF CERTIFICATES ISSUED SINCE THE COMMENCEMENT OF THE RECORD OF PERFORMANCE

	Cows	Bulls
Ayrshire	2,552	108
French-Canadian	136	4
Guernsey	144	6
Holstein-Friesian	3,215	144
Jersey	1,308	45
Red Polled	12	1
Shorthorn	659	14
Totals	8,026	322

POULTRY DIVISION

The falling off in the price of poultry products at the beginning of the last fiscal year was not long in evidence, and a fairly high level has since been maintained for both eggs and poultry. Last spring the cost of eggs into storage was almost as much as it was the previous spring. Consumption has increased during the past year and poultry keeping has continued to be remunerative to producers. There is a feeling at the present time very strongly in favour of a continuance in poultry keeping, and in a good many instances the number of poultry kept is being increased.

The policy of the Dominion Live Stock Branch with respect to the poultry industry is to bring about a greatly increased consumption of eggs and poultry both at home and abroad.

To this end legal standards for eggs have been provided and during the past year the consuming public has been invited, when making purchases of eggs, to ask for a specific grade—Specials, Extras, Firsts, or Seconds, and to make sure that the eggs purchased come out of a container marked with the name of the grade purchased, and by so doing to create a differential in price between specific qualities of eggs, such differential precipitated by the consumer's demand to be carried back to the producer as a means of stimulating the production and marketing of the grade or grades most in demand; in other words, making provision that the differential in price between specific grades shall be the best possible incentive to the production of a high grade product.

In the suggested amendments to the Egg Regulations, now under consideration, eggs for domestic consumption are fully covered, provision being made for them being sold on grade, and returns made to first shippers on a graded basis.

CO-OPERATIVE MARKETING AND POULTRY PROMOTION

The encouragement of co-operative marketing is being continued and is one of the many phases of the work carried on by the District Poultry Promoters and their staffs. The work of these men includes all phases of marketing problems as relating to eggs and poultry.

This is the first year on record when live and dressed poultry have been shipped from the Prairie Provinces to eastern markets, and we are safe in saying that never in the history of the West have such prices been realized by producers. A few cars were shipped from Alberta to the British Columbia markets. Several cars of poultry have been assembled and shipped during January, February and March of this year, and every effort is being made to spread shipments over a longer period than was previously thought possible.

In the East, car lot shipments of live and dressed poultry have been made from the Maritime Provinces and Quebec to Montreal, Boston and New York, with entirely satisfactory results to producers.

In connection with eggs, progress is reported from all provinces in which Poultry Promoters are located. Possibly the most outstanding example of suc-

cessful co-operation in Canada to-day is the British Columbia Co-operative Exchange. At the present time British Columbia eggs are being placed on the Toronto and Montreal markets at a price that compares favourably with the price at which United States fresh eggs can be imported.

In spite of the high tariff now charged on eggs sent from this country to the United States, the Egg and Poultry Co-operative Association of Prince Edward Island is still shipping its eggs to United States markets. This is possible for the reason that they sell a graded product which in past years has been found to give entire satisfaction to United States buyers.

In Ontario and Quebec, progress is being made in an organization way, and in the former province, an example is being made in one county of the uniting of all the egg circles in that county shipping to a central, the organization being on a share capital basis.

THE ADMINISTRATION AND ENFORCEMENT OF THE EGG REGULATIONS UNDER AND BY VIRTUE OF THE PROVISIONS OF THE LIVE STOCK PRODUCTS ACT, 1917, AND AMENDMENTS, 1919.

For the purpose of administration, Canada is divided into two sections, viz., Eastern and Western. The Eastern Section covers Ontario east of Port Arthur, Quebec and the Maritime Provinces. The Western Section covers territory west of the Great Lakes including Port Arthur. The following tables give a record of inspections for the calendar year, 1922.

TABLE 1

STATEMENT OF INSPECTIONS EASTERN SECTION

Months	Number cases inspected to date	Total shipments approved to date	Total shipments not approved to date
January	50	2	
February	50	2	
March	575	4	
April	17,536	48	
May	66,458	173	3
June	88,627	241	5
July	97,496	274	5
August	108,372	304	5
September	126,931	364	7
October	169,623	492	10
November	208,392	593	14
December	216,895	636	16

STATEMENT OF INSPECTIONS WESTERN SECTION

January	938	4	
February	938	4	
March	4,610	20	
April	24,113	82	15
May	60,785	198	30
June	83,249	269	34
July	94,829	309	39
August	104,997	333	49
September	109,743	349	51
October	123,990	381	56
November	133,913	401	65
December	144,762	427	67

STATEMENT OF INSPECTIONS TOTALS

Months	No. cases inspected to date	Total shipments approved to date	Total shipments not approved to date.
January	988	6	
February	988	6	
March	5,185	24	
April	41,649	130	15
May	127,243	371	33
June	171,876	510	39
July	192,325	583	44
August	213,369	637	54
September	236,674	713	58
October	293,613	873	66
November	342,305	994	79
December	361,657	1063	83

TABLE 2

COMPARATIVE STATEMENT OF INSPECTIONS, INTERPROVINCIAL AND EXPORT SHIPMENTS OF EGGS

	Export		Interprovincial		Total	
	Number inspections	Number cases	Number inspections	Number cases	Number inspections	Number cases
1921	440	140,155	548	182,544	988	322,699
1922	363	114,752	775	244,550	1,138	359,302

TABLE 3

COMPARATIVE STATEMENT OF INTERPROVINCIAL SHIPMENTS

1921	1922
142,003 cases	185,660 cases

COMPARATIVE STATEMENT OF LOCAL SHIPMENTS

1921	1922
34,463 cases	59,361 cases

COMPARATIVE STATEMENT OF EXPORT SHIPMENTS

1921	1922
146,233 cases	114,752 cases

TABLE 4

EXPORTS BY PROVINCES

Ontario	69,560	cases
Quebec	21,564	"
Nova Scotia	418	"
Prince Edward Island	9,329	"
Manitoba	5,580	"
Saskatchewan	4,777	"
Alberta	2,500	"
British Columbia	1,024	"
Total	114,752	"

TABLE 5

CLASSIFICATION OF EXPORTS

Fresh eggs	22,751	cases
Storage eggs	92,001	"
Total	114,752	cases

For the calendar year, 1922, 1,138 inspections were made covering a total of 359,302 cases of eggs. Of these, 114,752 cases were exported to Great Britain, and of this quantity 22,751 cases were fresh and 92,001 cases were storage. There was a slight falling off in the exportation of Canadian eggs during the past year as compared with 1921, due to market conditions during the early part of the season when quotations from British importers precluded exportation of Canadian fresh eggs at a profit.

During the year, a pronounced increase is noticeable in intraprovincial or voluntary inspection. This increase would indicate a growing tendency on the part of produce dealers, packers, track shippers and country dealers to sell on a graded basis subject to Government inspection, thereby applying the principle of quality payment and recognizing the principle that the system of Government inspection is absolutely impartial, safeguarding the interest of buyer and seller alike. The method of inspection is highly commended by practically every British importer, and it is owing to the efficiency of the system and the ability of the inspectors employed that Canadian eggs are receiving a premium on the British market over the product of our nearest competitor. The standards for Canadian eggs based on the interior quality of the product makes possible the shipment of a grade of eggs of a definite quality, and quoting from Dr. Grisdale's statement concerning the development of Canada's export trade in agricultural products:—

> "When it comes to eggs, Canada ranks highest, next to the home article or the Holland article, which, of course, comes over inside twenty-four hours. Thirty-dozen crates, 'Canada Firsts,' were quoted some shilings higher than American selected eggs, Americans being, of course, our greatest competitors."

Attention has been directed during the past year to a close analysis of conditions under which eggs are being offered to the consuming public, to ascertain why it is consumers have experienced so much difficulty and unpleasantness in the purchase of eggs. Reports are on file covering upwards of 3,000 retail stores in the principal consuming centres of Canada. Low grade, bad and musty eggs were found to be the principal factors retarding home consumption. The importation of low grade foreign eggs proved to be, on investigation, a serious contributing factor in curtailing home consumption. A conference was held with representatives of the wholesale trade, Retail Merchants' Association, producers and consumers to consider the question, resulting in strong representations being made that drastic action should be taken to place some restrictions on the importation of foreign eggs of low grade quality. Following these representations, regulations were promulgated covering the importation of foreign eggs which became operative October 7, 1922. Since the Import Regulations came into effect, October 7 to the end of the calendar year, 154 carloads of United States eggs were imported, representing 61,334 cases. Of this quantity, Toronto alone imported 76 carloads or 30,286 cases. Reports show that the quality of imported eggs arriving from the United States is much better than importations previous to the operation of the regulations.

Realizing that the home market is Canada's greatest market, attention is being directed to encouraging the purchase and sale of eggs on a quality basis graded in accordance with the Canadian standards and making available for the consumer eggs of a definite quality. The principle has been accepted and it only remains to be applied in actual practice in such a manner that will ensure a fair deal to all concerned in the marketing of the product. With this end in view, amendments to the Egg Regulations are being given consideration which will more effectively develop the home market, giving proper consideration to the three parties vitally interested, first the consumer, which represents the largest

interest and an interest that must be carefully safeguarded, second, the producer who must receive compensation on an equitable basis that will ensure an increased interest in the production and marketing of a quality product, third, the wholesale produce merchant as a factor in the proper distribution of the product through well ordered channels of trade. The effect of the proposed regulations, it is confidently believed will further stabilize the egg industry with the result that the country merchant, who is probably the largest collector, will have every incentive to market his eggs promptly. Consequently there will be a decreased supply of low grade eggs and a correspondingly increased supply of high grade eggs which will materially lower the price to the consumer and stimulate a heavy increase in consumption, thereby improving the greatest market we have for the product —the home market.

RECORD OF PERFORMANCE FOR POULTRY

This project, which has been in effect since 1919, consists of the official inspection and subsequent certification of trapnest records of pure-bred birds on the owners' premises. Its operation is based on two fundamentals—the ability of the inspectors to estimate the past production of individual birds from their physical condition, and the fact that future production can be predicted from the known production during a certain period early in the laying year. A good indication that the control thus established is effective against attempts on the part of the breeders to "pad" their reports of production is the fact that, taking the three years in which the work has been carried on, the total percentage of birds qualifying for certificates is 36 per cent, as against approximately 50 per cent in the ten official Canadian Laying Contests last year, where the birds were on Government plants and under neutral control.

Briefly, the objects of Record of Performance may be stated as follows:—

(1) To encourage the breeding of poultry combining high production and standard qualities.

(2) To secure for poultry breeders reliable information as to the sources of such stock.

(3) To demonstrate to breeders the value of trap-nesting and pedigree breeding in building up high-producing strains of standard breeds of poultry.

(4) To eliminate the advertising of high trap-nest records of doubtful authenticity.

(5) To assist breeders in becoming familiar with the most up-to-date methods of poultry breeding.

The work has increased steadily since its inception in 1919. In table (1) are given the comparative entries in 1919, 1920, 1921 and 1922.

TABLE 1

Province	1919		1920		1921		1922	
	Birds	Breeders	Birds	Breeders	Birds	Breeders	Birds	Breeders
British Columbia	1,625	10	2,488	16	2,580	25	6,208	67
Alberta	24	2	45	1	662	16	1,262	17
Saskatchewan	120	1	363	3	418	5	250	4
Manitoba	203	3	25	1	214	5	311	8
Ontario	1,086	26	2,576	33	5,065	40	2,460	38
Quebec	869	8	1,503	16	2,065	18	1,175	30
New Brunswick	180	4	400	7	275	4	325	4
Nova Scotia	83	2	.....	.....	190	4	175	3
Pr. Edward Island	246	11	111	4	110	5	120	4
Totals	4,436	67	7,511	81	11,579	122	12,286	175

It will be noted that the breeders in British Columbia have taken up this work in great numbers during the current year (1922-23). The progress in this province is even greater than appears on the surface, as the breeders in Record

of Performance have organized a provincial association, called the Record of Performance Poultry Breeders' Association of British Columbia, of which every entrant in the province is a member. This Association is carrying on an active advertising campaign based on Record of Performance results, and reports that its members are sold out of eggs and baby chicks for the present season. Much of this business has come from the Petaluma district in California, where the poultrymen welcome the chance to secure certified stock in large numbers.

An organization similar to the above has also been formed in Alberta, and breeders in Ontario and Quebec have expressed a desire to do likewise.

A report is published each year, as early as possible in order to be available during the breeding season.

Much discussion takes place among poultrymen as to which is the "best breed" for egg production. In table (2) the results are tabulated by breeds, showing the percentages under the different headings. In this table no entries are included which were withdrawn or dropped during the year. The minimum qualification requirement for Record of Performance Certificate is 150 eggs or over, and for Record of Performance Advanced Certificate, 225 eggs or over, in fifty-two consecutive weeks.

TABLE 2

Breed	Entered	Banded	R.O.P. Certificate	R.O.P. Advan. Cert.	Withdrawn	Died	Failed to Qualify	Number of Entries
Wyandottes.....	755	744	317 42·6%	61 8·2%	146 19·6%	52 7%	168 22·6%	21
Leghorns.....	3,890	3,899	1,552 39·8%	334 8·6%	746 19·1%	349 9%	918 23·5%	37
Plymouth Rocks..	3,302	3,231	781 24·2%	105 3·2%	824 25·5%	467 14·5%	1,054 32·6%	43
Rhode Island Red.....	1,117	1,058	196 18·6%	11 1%	470 44·4%	83 7·8%	298 28·2%	21
Anconas.....	35	29	12 41·4%	.....	4 13·8%	2 6·9%	11 37·9%	2
Other breeds.....	75	75	7 9·2%	.....	49 65·4%	2 2·7%	17 22·7%	2
	9,174	9,036	2,865	511	2,239	955	2,466	126

The Wyandottes lead the Leghorns in percentage of total certificates by a small margin. This was also the case last year, and in the totals to date.

The success and value of this whole project rests entirely on the confidence of the breeders and buying public in the accuracy of the records. This confidence is maintained by rigid inspection and careful checking of the breeders' reports in the office. In connection with the latter, it has been found possible to predict with a marked degree of accuracy, future production of groups of birds, using as a basis the known production for periods early in the year.

The value of the work is two-fold. It consists in the gathering and publishing of reliable information as to the sources of stock of known high-producing qualities, and in the missionary work done by the inspectors in the course of their duties, in regard to improved methods of breeding, pedigreeing, feeding, housing, etc. This latter phase of the work is having its most marked effect in districts where poultry keeping was heretofore run in a rather haphazard manner.

Another feature of Record of Performance is the fact that a much greater number of birds can be handled than in any other way. In other words, it can be readily adapted to meet the needs of the industry in sufficient volume to have a definite effect in poultry breeding in a national way.

EGG AND POULTRY MARKETS INTELLIGENCE

No change has been made during the past year in the system of distributing markets intelligence. Through the medium of the Canadian Press, daily market wires covering the egg and poultry situation throughout Canada, the United States, and Great Britain, appear in the daily press in all parts of Canada. In the case of Ontario, many in the small towns are reached by mail, at the same time. The cost of this service is very small and particularly when considered from the standpoint of the number reached.

Some business houses and co-operative concerns look to this service for special daily and weekly reports and there is no doubt that this end of the work will increase.

The importance of the Chicago market as relating to the general situation in Canada is very apparent and the establishing of direct telegraphic communications with this market is being considered.

The weekly egg and poultry markets report is still being published. Requests are being received continually for this report and for market statistics which it is possible to compile from the weekly report.

The distribution of this report to British egg and poultry importing houses still continues and very cordial letters have been received respecting this particular work.

The method employed in gathering market information is the same as in previous years. All officers of the Poultry Division are expected to furnish daily reports on prices, receipts, etc., from points visited. In addition, special correspondents are maintained at Vancouver, Calgary, Edmonton, Regina, North Battleford, Montreal and St. John. The London, Liverpool, and Glasgow markets are reported weekly by cable.

With regard to the United States market information received, efforts are being made to establish definite market correspondents, particularly in Chicago and possibly New York and Boston. At the present time the Chicago and New York market information received, is obtained by the Toronto market correspondent. Very often a change takes place in the Chicago market around noon and through our present system, it is not possible to get information of that change until the next morning, hence it is at least a day late before it reaches those to whom the reports are distributed.

Sheep and Swine Division

Hog prices remained firm throughout the year enabling farmers to sell their hogs at a figure which netted a good margin of profit over cost of production. The depreciation in the price of grain in Western Canada caused farmers to turn to hog raising as a more profitable means of marketing their barley and oats with the result that production in the western provinces materially increased. Fortunately Quebec and Eastern Ontario which suffered from a drought the year previously had materially decreased their production of hogs and the surplus of hogs produced in the west found a good market in Montreal. The general type of Canadian hogs at the present time is of a quality unsuitable for the export market but owing to low production the bulk of our thick smooth hogs is being consumed in the Canadian trade. The farmers are now generally awake to the requirements of the British market and with the widespread sale of bacon type breeding stock it is expected that future expansion of the industry will provide a surplus of hogs of a type which will produce the best of Wiltshire bacon.

The liquidation of breeding ewes which occurred during the past two years has reduced lamb production to a point where the supply is scarcely equal to the demand. The general quality of Canadian lambs is undoubtedly improving and

with lamb becoming more popular as a household meat the price has been maintained at a figure which is extremely remunerative to the sheep raiser. The price of wool has also gone up steadily and now that there is a general shortage the world over further advances are expected. With good prices for both wool and lambs interest in sheep raising is reviving and many farmers are now starting a small flock.

WOOL GRADING

Wool grading was again performed for all farmers who forwarded their wool for grading and co-operative sale. Although wool prices advanced considerably over last year, the keen competition which developed among local buyers in the purchase of wool direct from farmers at a flat price, resulted in a considerable falling off in the quantities forwarded for grading as compared with the previous year. It was noticeable, however, that this year the percentage of reject wools and inferior grades was much lower than a year ago, indicating that the best farmers continued to sell according to grade. The following tables show the total amounts forwarded by the various associations and by provinces:

WOOL GRADED, 1922

WOOL CONSIGNED BY ASSOCIATIONS

	Assn. Total	Prov. Total
Prince Edward Island—		
Prince Edward Island Sheep Breeders	35,755	35,755
Nova Scotia—		
Antigonish Wool Growers	24,102	
Truro Wool Growers	47,382	
		71,484
New Brunswick—		
New Brunswick Wool Growers	21,818	21,818
Quebec—		
Sherbrooke	11,451	
Pontiac	25,116	
Beauharnois	1,596	
Bedford	3,275	
Beauce	514	
Compton	8,611	
Argenteuil	2,864	
Richmond	5,345	
Ottawa	5,117	
Stanstead	8,109	
Sundry shipments	8,305	
		80,303
Ontario—		
Southern Manitoulin Wool Growers	13,624	
West Manitoulin Wool Growers	14,640	
Canadian Co-operative Wool Growers	630,048	
		658,312
Manitoba—		
Manitoba Branch	101,170	101,170
Saskatchewan—		
Canadian Co-operative Wool Growers	83,336	
Southern Saskatchewan Wool Growers	28,392	
Saskatchewan Branch	190,810	
Sundry shipments	2,823	
		305,361
Alberta—		
Central Alberta Wool Growers	16,865	
Alberta Provincial Sheep Breeders	71,098	
Alberta Sheep Breeders	99,978	
Southern Alberta Wool Growers	158,574	
Vermilion Wool Growers	46,573	
Canadian Co-operative Wool Growers	103,789	
Sarnia Ranching Company	31,099	
L.S.C	22,662	
		550,638
British Columbia—		
British Columbia Wool Growers	93,161	93,161
Grand total (Lb.)		1,918,002

CLASSES OF WOOL BY PROVINCES

Eastern Domestic Wool—		
Prince Edward Island	35,755	
Nova Scotia	71,484	
New Brunswick	21,818	
Quebec	80,303	
Ontario	658,312	
		867,672
Western Domestic Wool—		
Manitoba	96,249	
Saskatchewan	179,877	
Alberta—		
Central Alberta Wool Growers	16,865	
Alberta Provincial Wool Growers	67,137	
Alberta Sheep Breeders	76,455	
Southern Alberta Wool Growers	2,108	
Vermilion Wool Growers	928	
Canadian Co-operative Wool Growers	84,721	
British Columbia	68,232	
		592,572
Western Range Wool—		
Manitoba—		
Canadian Co-operative Wool Growers	4,921	
Saskatchewan—		
Southern Saskatchewan	125,484	
Alberta—		
Southern Alberta Wool Growers	156,466	
Vermilion Wool Growers	45,645	
Canadian Co-operative Wool Growers	19,068	
Alberta Provincial Sheep Breeders	3,961	
Alberta Sheep Breeders	23,523	
Sarnia Ranching Co	31,099	
L.S.C	22,662	
British Columbia	24,929	
		457,758
Grand total		1,918,002

RAM CLUBS

Extensive work in the organization of Ram Clubs was again undertaken during the past year. In Quebec, upwards of thirty clubs were organized and one thousand head of purebred rams were purchased by agents for sale to farmers. The demand created for rams through this organization work, soon depleted the available supply in Quebec and several hundred head had to be purchased in Ontario, and the market which this provided for Ontario breeders, practically took care of all saleable stock of reasonably good quality in that province. The organization of Ram Clubs is being confined to counties where very little purebred blood has been used and when once a county is entered, an effort is made to effect sufficient sales to insure the use of purebred rams with the majority of farmers. This makes available for market, the following season, several carloads of improved type market lambs thus enabling farmers to estimate clearly the value of the use of the purebred sire in dollars and cents. There are still many districts in Eastern Canada as well as the West, where further organization work of this nature can be promoted and it is proposed to cover as many of these districts as possible during the coming season.

THE RAM PREMIUM POLICY

This policy has been the means of encouraging many farmers to buy a good purebred ram. Under the conditions of the policy, two annual premiums of $5 each are paid to any farmer who purchases a purebred ram for the first time and who agrees to dock and castrate his lambs. During the past year when money was scarce this policy has done much to maintain the use of

purebred rams, especially among the indifferent flock owners who have never appreciated the importance of using a purebred ram in preference to a grade. The policy especially when operated in conjunction with the organization of ram clubs has been very effective in generalizing the practice of docking and castrating the lamb crop.

The following table gives the number of applications for premiums received from each province, intimating also the breed of rams purchased.

FIRST ANNUAL PREMIUM PAID, 1922

Breed	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Hampshire	1	4	.....	42	5	.....	.....	.....	.....
Shropshire	1	18	10	266	74	2	.....	3	.....
Oxford	3	29	39	234	91	5	.....	2	3
South Down	.....	1	.....	.....	2	.....	.....	.....	.....
Cheviot	.....	1	3	33	.....	.....	.....	.....	4
Leicester	1	.....	6	93	14	.....	.....	.....	.....
Cotswold	.....	.....	.....	1	3	.....	.....	.....	.....
Suffolk	.....	.....	.....	.....	.....	.....	.....	2	.....
Lincoln	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dorset	.....	1	4	.....	1	.....	.....	.....	.....
Total	6	54	62	669	190	7	.....	7	7

Total 1,002

SECOND ANNUAL PREMIUM PAID, 1922

Breed	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Hampshire	1	2	.....	35	7	.....	.....	.....	.....
Shropshire	.....	19	4	71	38	.....	.....	.....	.....
Oxford	3	28	17	143	35	1	.....	5	1
South Down	.....	1	.....	2	2	.....	.....	.....	.....
Cheviot	.....	.....	.....	2	.....	.....	.....	.....	.....
Leicester	2	2	4	42	11	1	.....	.....	.....
Cotswold	.....	.....	.....	.....	.....	.....	.....	.....	.....
Suffolk	.....	.....	.....	.....	1	.....	2	.....	.....
Lincoln	1	.....	1	.....	.....	.....	.....	.....	.....
Dorset Horn	.....	.....	1	.....	.....	.....	.....	.....	.....
Total	7	52	27	295	94	2	2	5	1

Total 485

GRADING OF PUREBRED RAMS

Ram grading was performed during the past season in the provinces of Alberta, Manitoba, Quebec, New Brunswick and Nova Scotia. In Quebec and the Maritime Provinces, where the work has been continued for a number of years, the sale of purebred rams by breeders has been greatly facilitated and the confidence of the grade flock owner in the use of a purebred sire has materially improved. In Western Canada, where grading is a new feature of sheep improvement work, it is looked upon with favour both by breeders and buyers as it assists in sale and purchase by mail. Breeders invariably follow the practice of selling their X rams to the butcher and offer only XXX and XX rams for breeding purposes. Ram grading has tended to eliminate the scrub purebred ram in the provinces where grading has been done and is also doing much to improve the general type of the pure-bred flocks.

DIPPING, DOCKING AND CASTRATING

The practical value of these operations, which have been demonstrated to sheep raisers through our field work during the past number of years, is becoming more appreciated and their adoption has been more general. A most illustrative method of demonstrating the value of these practices was originated this year in Ontario where field work in this connection was limited to a few counties and where car-lots were marketed co-operatively in the fall. These straight car-lots of ewe-lambs and wethers brought prices ranging from one to two cents a pound higher than top quotations for the day.

The placing of pure bred rams in the province of Quebec under our bonus policy, has necessarily increased requests for demonstrations and as a result there is a marked decrease in the percentage of ram lambs offered on the Montreal market.

The following is a summary of activities in the above connection:—

Province	Number demonstrations	Attendance	Number of Meetings	Attendance	Number of Sheep Dipped	Number of lambs docked and Castrated
New Brunswick and Nova Scotia	15	300	67	2,700	1,400	3,000
Prince Edward Island	16	733	20	1,628	500	300
Quebec	50	1,000	300	60,000	7,500	8,000
Ontario	30	500	35	1,621	6,400	1,650
Manitoba	15	300	.....	.....	.....	.....

A special feature of the dipping work in Ontario has been the establishment of the community dipping tank. Eight of these were installed during the past season and from the requests received for tanks of this kind, it is anticipated that a large number may be installed during the coming season. The community dipping tank provides permanent facilities for annual community dipping with a minimum cost to each sheep raiser and the general use of these tanks will mean increased comfort to flocks and greater revenue to the farmer.

CO-OPERATIVE SHEEP AND LAMB MARKETING

Co-operative marketing of lambs especially in the Maritime Provinces and Quebec did much to maintain a relatively high average price to sheep raisers in these provinces and more particularly in districts farthest removed from marketing centres. Local buyers early in the season, predicted a lowering of prices, especially as the McCumber Fordney Tariff bill was likely to be made applicable at a time when the bulk of the fall offerings were ready for market. The encouragement of co-operative shipments, however, demonstrated that the tone of the market was strong and a well organized distribution of co-operative shipments to the large market centres was largely instrumental in maintaining prices at a relatively high average throughout the entire season. Co-operative shipments in Ontario and Manitoba also demonstrated that a very considerable saving could be effected by marketing co-operatively. The following table gives a summary of co-operative shipments by provinces:—

SUMMARY OF CO-OPERATIVE MARKETING

LAMBS

Province	Number of Cars	Number of Head	Value
Prince Edward Island	14	1,999	$15,918 06
New Brunswick	15	1,843	12,300 83
Nova Scotia	4	457	2,853 67
Quebec	68	7,000	49,000 00
Ontario	10	1,027	8,800 00
Manitoba	6	650	.....

SHEEP FEEDING COMPETITIONS

These competitions which have as their object the encouragement of better feeding and management of the farm flocks, were organized only in the province of Quebec, in co-operation with the Quebec Department of Agriculture.

It was found that farmers who were purchasing purebred rams for the first time, were often lacking in a knowledge of modern sheep practice. In many cases the sheep barns required adjustments in order that the flocks would be comfortably housed; proper equipment including suitable feeding racks, was often lacking and in numerous instances, suitable forage crops for summer feeding of ewes and fattening of lambs for market, were not being grown. Furthermore, it was found that the winter ration fed to breeding ewes often lacked variety or was not being properly balanced to induce the wintering of ewes in such a condition that they would produce strong, healthy lambs, as well as an adequate milk flow after lambing.

Inspectors in making the awards, considered the buildings; equipment; uniformity of flock; condition of ewes and ram; feeds and methods of feeding; use of forage crops; weight and quality of wool clip and weight and quality of lambs marketed. As far as possible, flock management and flock improvement were discussed with each farmer who entered the competition. Assistance as necessary, was given in the docking and castrating of the lambs.

Thirty-three of these competitions were held in the province and as a result of inspections made many flocks have been culled of undesirable ewes, improved feeding racks have been built, proper roughages are being grown and farmers will market wool of a superior quality and lambs of a more desirable market type.

LAMB SHOWS AND SALES

The success attained at the first lamb show and sale held in Canada at St. George, Beauce county, Quebec, 1921, where extensive work had been done in the placing of purebred rams, as well as the carrying on of a large amount of demonstration work in the dipping, docking and castrating of lambs, made it appear advisable to extend these fairs and sales to other sections of the country where similar breed improvement work had been carried on. At each fair the grading of the lambs offered according to market requirements was made a special feature and sales were made on the graded basis.

The purpose of these lamb shows and sales is to demonstrate the value of the purebred sire in the production of high grade market lambs, and also to demonstrate that well finished lambs of improved breeding, which have been dipped and docked and the males castrated, will bring a premium on the market when offered for sale in carload lots.

The prizes offered have been made sufficiently attractive to bring out a large number of entries, thus providing an excellent opportunity for farmers in a community to study the respective merits of the progeny of well graded flocks from different rams of the same breed, as well as rams of different breeds. The judging of the various classes is a means of educating the farmer to lamb market requirements and grading; and sale according to grade, which has been made an important feature of each fair, enables the farmer to see in actual dollars and cents what type of lamb is the best seller.

Entries have been confined to lambs that are the progeny of purebred rams and which have been properly prepared for market. Fairs are only held in districts that give promise of providing at least three hundred lambs for the fair. The sale of the lambs when judging has been completed, is left in the hands of a Sales Committee. In some cases the committees encouraged buyers to attend the fairs and with a view to purchasing locally by public auction, whereas in other cases at the wish of the owners, the lambs were consigned by the committee as a co-operative shipment for sale at the stockyards. These fairs provided a measure of organized salesmanship in the districts in which they were held, with the result that the prices obtained for lambs exhibited at these sales, were in a measure maintained for the remainder of the lambs of the district.

The Provincial Department of Agriculture for Quebec co-operated with the Dominion Department of Agriculture in providing fifty per cent of the prize money and expenses, and nineteen fairs were held in the province, at which seven thousand lambs were exhibited and sold. In Ontario, fairs were held at Chatsworth, Middleville and Paris, at which seven hundred and fifty lambs were exhibited and sold. At Arbourg in Manitoba, perhaps one of the outstanding fairs of the year was held; there being a total of six hundred and fifty head of lambs entered for show and sale. It is estimated that this sale alone was instrumental in effecting a gain of some two thousand dollars to the exhibitors in the sale of their lambs.

These sheep sales have undoubtedly been a big factor in promoting the greater use of purebred rams and give promise of being extremely useful in stimulating greater interest in sheep raising, providing a proper medium for the sale of quality lambs and a means of securing the market premium for well finished stock of the right breeding.

GOAT EXTENSION WORK

Considerable interest is being developed in the breeding of goats in Ontario and Alberta. A series of demonstrations were conducted during the summer months on suburban areas of central Ontario. Several does of milking breeds were conveyed from place to place in an auto truck which was fitted up for the purpose. Signs setting forth the good qualities of milk goats were displayed and at each demonstration point, the does were milked and those who attended the meetings, were allowed to sample the milk. As a result of this publicity work, there arose a very considerable demand for milking does, and although there are a considerable number of breeders in the province, there were not nearly enough animals offered for sale to meet the requirements. If such demonstration work is carried on another year, it would appear advisable to make special provision for the importation of a carload of moderately priced milking does.

RAM DISTRIBUTION POLICY

The loaning of rams under this policy has been further restricted in scope during the past year. The encouragement given to individual purchase through

the ram premium policy and the efforts of our field men in organizing ram clubs, has largely eliminated the necessity for loaning rams to associations and as a result any loans which were approved were made in newly settled districts or in districts settled by returned soldiers.

The following table shows the number of rams loaned at present in each province:—

Province	Oxfords	Shropshires	Leicesters	Hampshires	Lincolns	Total
Quebec	20	20	.....	8	.....	48
Ontario	10	6	3	.....	2	21
Manitoba	29	1	.....	.....	.....	30
Saskatchewan	1	.....	.....	.....	.....	1
Alberta	9	6	1	.....	.....	16
British Columbia	2	.....	.....	.....	.....	2
	71	33	4	8	2	118

BOAR DISTRIBUTION POLICY

In view of the special effort being made during the year to encourage the raising of bacon hogs, there has been a large number of requests for the loan of bacon type boars by Boys' and Girls' Swine Clubs and associations of farmers in districts where no purebred bacon type boars were available. At the present time a total of one hundred and ten boars are out on loan under the policy.

SHORT COURSES AND LECTURES

A series of sheep and swine marketing courses and lectures dealing with sheep and swine marketing problems were given in practically all the provinces. The Swine Conference at which a definite policy with regard to hog grading was drafted, necessitated the undertaking of a large amount of special field work in swine, dealing with the proposed basis of hog grading, the holding of hog grading demonstrations at local shipping points, and demonstrations setting forth the grading of Canadian bacon for export. The judging of live hogs and dressed carcasses was made a special feature of the swine marketing courses, and two sides, one from a select bacon hog and the other from a thick-smooth type were cut up, one into a Wiltshire side for export and the other into the usual Canadian cuts. The swine marketing courses, hog grading demonstrations, and lectures on hog marketing, did a great deal to impress on farmers the necessity of breeding bacon hogs.

At the sheep marketing courses, wool grading and co-operative selling of wool were dealt with, indicating where improvement in the quality and grade of wool could be improved in the various provinces. Judging market lambs and the cutting up of lamb carcasses for lamb rings and retail purposes was demonstrated and had as its objective, increased consumption of lamb in Canada. Sheep improvement topics, such as dipping, docking and castration, problems in co-operative marketing of lambs, organization of ram clubs, flock culling and feeding and management of the farm flock, were covered in detail. These courses are doing much to stimulate interest in sheep raising generally throughout the various provinces.

BOYS' AND GIRLS' SWINE CLUBS

The organization of Boys' and Girls' Swine Clubs was extended during the year to every province in the Dominion and a total of 121 clubs organized and made operative during the year. Our field men co-operating with the provincial

district field men supervised the selection and purchase of good breeding stock for many of the clubs, this assistance approximating a total of one thousand head of pigs. Members of a number of clubs that were organized a year ago are now breeding excellent type brood sows and next spring will have quantities of stock available for sale to newly organized clubs. The province of Manitoba is perhaps further advanced in this connection than any of the other provinces. In addition to assisting in the selection of desirable stock for club members the division issued monthly letters dealing with the feeding and finishing of bacon hogs.

The success attained by the club members on the whole in the feeding of their pigs during the summer enabled the clubs to make an excellent exhibit of hogs at the local county or school fair. The quality and type of the stock proved a splendid educational feature not only to members but also to the parents.

The marketing of the carlot entries by the clubs in the various provinces at stockyard centres stirred up keen rivalry between the clubs and members who were fortunate enough to go to the marketing points to see the carlots judged and participate in the swine judging. Competitors derived much valuable information which will be of future value in the breeding and marketing of hogs.

The various carlot entries were graded in accordance with the official hog grading standards and the boys clearly demonstrated their ability to produce properly finished hogs of the proper type. The marketing of straight carloads of hogs of uniform breeding enabled the clubs to sell their hogs, especially when they were properly finished, at a handsome premium over going market prices. The success which has attended the efforts of club members in the production of bacon hogs has been the means of introducing the breeding and production of bacon hogs as a general policy in many districts where previously the farmers were breeding nondescript hogs of non-bacon type. The following table shows the number of clubs organized in each province, the membership and the number of hogs marketed:—

LOCAL COMPETITIONS

Province	Number of Clubs	Entries	Amount in Prizes	L.S.B. paying one-third
Quebec	54	1,200	$ 9,000 00	$ 3,000 00
Ontario	11	107	423 00	141 00
Prince Edward Island	7	85	399 00	133 00
Nova Scotia	1	.....	.....	.....
New Brunswick	2	35	360 00	120 00
Manitoba	30	277	1,743 00	581 00
Alberta	8	160	358 00	119 34
British Columbia	8	120	961 00	320 33

CARLOT COMPETITIONS

Province	Number of Carlots	Number of Hogs	Price	Amount in Prizes paid by L.S.B.
Prince Edward Island	3	280	9–11	$ 270 00
Nova Scotia	1	60	.....	.....
New Brunswick	1	70	.....	.....
Quebec	50	3,795	9½–12	1,660 00
Ontario	8	480	10–14	595 00
Manitoba	10	700	9–11	595 00
Alberta	7	400	8–11	425 00
British Columbia	8	420	9–11½	410 00

SWINE CLUB JUDGING COMPETITIONS

Province	Number Entries	Amount in Prizes	L.S.B. pays all
Quebec	185	$ 1,400 00	$ 1,400 00
Ontario	65	325 00	325 00
New Brunswick	30	325 00	325 00
Manitoba	55	325 00	325 00
Alberta	40	325 00	325 00
British Columbia	35	325 00	325 00

HOG GRADING

The Swine Conference held in November of 1921, was called for the purpose of analyzing the swine industry in Canada with a view to developing a policy which would give stimulus to the production of better quality hogs and provide for a safe expansion of the industry. The Conference which was composed of delegates representing producers, packers, Provincial Governments and the Federal Government, after much deliberation, recommended a plan for the marketing of hogs on a graded basis. The Live Stock Branch of the Federal Department of Agriculture was charged with the responsibility of drafting hog grading regulations embodying the recommendations made at the conference and at once proceeded to study the situation from all angles in order that the new regulations when finally passed would be generally applicable in all provinces and for all stockyards. This required time and necessitated repeated consultation with producers' organizations, live stock exchanges, stockyard companies and packers, but finally agreement was reached on the various contentious points of issue and the draft of regulations, approved by all interested parties, was submitted to Council and, being subsequently passed, became effective on October 30, 1922.

During the period which elapsed while the regulations were being drafted, the department augmented the usual staff of field men and a large number of hog grading demonstrations were held at shipping points and in connection with swine marketing courses. Special lectures on the bacon hog and hog grading were also delivered at meetings throughout the country. This educational work did much to acquaint farmers with hog grading and its application besides creating a general appreciation of the benefits accruing from the breeding of bacon type hogs. It also had the effect of inducing a large number of farmers to buy breeding stock of improved type and popularized the use of bacon type boars, thus tending to increase greatly the number of select bacon hogs produced in the country.

As soon as the grading regulations went into effect and all hogs marketed were graded it became apparent that only a very small percentage of Canadian hogs were grading select bacon. Grading had the immediate effect of reducing the percentages of outweight hogs and the premium paid for selects had the effect of stimulating farmers to greater effort in the breeding and finishing of select bacon hogs. The following statement shows the percentages of each grade of hogs at the various stockyards.

TABLE SHOWING PERCENTAGES OF VARIOUS GRADES AT STOCK YARDS OCTOBER 30, 1922, TO FEBRUARY 28, 1923, INCLUSIVE

Market		Selects	Thick Smooth	Heavies	Extra Heavies	Shop Hogs	Lights and Feeders	Roughs	Sows No. 1	Sows No. 2	Stags
Toronto.....	.....	20·3	54·7	12·9	0·3	8·5	1·4	0·07	0·2	1·1	0·1
Montreal.....	.....	18·6	38·2	3·5	0·2	31·08	4·3	0·5	1·03	2·05	0·2
Winnipeg.....	.....	8·7	66·4	7·3	0·6	4·3	10·5	0·08	0·7	0·9	0·1
Calgary.....	.....	2·8	75·9	2·0	0·3	10·6	6·4	0·06	1·09	0·6	0·08
Edmonton.....	.....	2·7	66·3	1·1	0·1	21·4	6·2	0·48	1·1	0·6	0·06
Total....	100%	12·2%	60·3%	7%	0·4%	13%	5·7%	0·2%	0·7%	1·1%	0·1%

72·5% within bacon weights.
7·4% over bacon weights.
18·7% under bacon weights.
2·1% all other grades and weights.

It will be noted that the percentage of select bacon hogs for the Dominion is only 12.2 per cent, whereas the percentage of thick smooth hogs is 60.3 per cent. The low percentage of select bacon hogs in Western Canada is attributable to the fact that in the western provinces the lard breeds gained a much greater foothold than in Eastern Canada. The effect of the widespread distribution of bacon type sows and more general use of bacon boars has not yet made itself felt to any appreciable extent on the percentage of select hogs being shipped to market although the effects of improved blood will be much more in evidence in a year's time.

Hog graders are operating at all stockyards throughout the Dominion and grading is supervised at all the principal packing plants. Commercial hog tags have been devised and are available for purchase in all the provinces, thus permitting of the proper marking of individual farmer's hogs and providing a definite means whereby farmers may get correct information on the actual grading of their shipments to market. Owing to the short time in which hog grading has been in effect it is impossible to estimate fully the results which have been attained, however, it is freely admitted by both packers and producers that hog grading has already done much to revolutionize the quality of Canadian hogs and that its continuance will place Canada in a position where she can safely expand her hog production, knowing that Canadian Wiltshire will be of a sufficiently high quality to meet the keenest competition on the world's markets.

BACON GRADING INVESTIGATIONAL WORK

The recent appointment of a bacon expert has made it possible to commence an analysis of the manufacture of Wiltshire sides in Canada, looking to the grading, curing, packing and selling of this product. The extent of the Canadian trade in pork products and the fact that a very considerable percentage of our bacon hogs are utilized, especially in the manufacture of the cured Canadian cuts, suggests the necessity of making a careful study of the whole Canadian trade in fresh and cured pork products, in order that a definite relationship may be established between the purchase of live hogs on a graded basis and the disposition of the carcasses from these graded hogs through the various wholesale and retail channels. It is hoped that sufficient information will be secured in the course of a year to permit of making fairly definite recommendations in regard to the grading of bacon for export and the grading of pork cuts for sale in Canada.

BACON PRODUCTION TEST WORK

Realizing the necessity of definitely relating breed type and conformation in purebreds to the requirements and standards of choice Wiltshire sides, pre·

liminary test work was arranged for with a number of purebred breeders and twelve pairs of hogs of Yorkshire, Tamworth and Berkshire breeding were fed at the Central Experimental Farm, Ottawa, and four pairs of Yorkshires and Tamworths were fed at the Experimental Farm, Charlottetown, P.E.I. A careful record of all feeds consumed was kept by the Experimental Farms Branch so that definite figures were obtained with regard to production costs for each pair of pigs submitted by each breeder. When finished at proper weights, the hogs were slaughtered and the carcasses converted into Wiltshire sides, a record being kept of the percentage of dressed weight and the percentage of trim. The sides were then scored, taking into consideration, firmness and distribution of back fat; length and proportion of side; distribution of lean meat; fullness and shape of ham and smoothness of shoulder. The test indicated that there was a considerable difference in the feeding qualities of the different strains within the various bacon breeds and also that certain strains were capable of producing superior Wiltshire sides to others. The information obtained will be used to develop a definite policy whereby it is hoped that a definite test will be applied to purebreds for the purpose of estimating their ability to produce pork economically and high grade Wiltshire sides.

ENCOURAGING SALE OF BACON TYPE SOWS AND BOARS TO FARMERS

The institution of hog grading created a general demand for bacon type sows and the various field men all over the Dominion were active in assisting farmers to make the proper selections. In Quebec there was a general scarcity of bacon type sows and seven hundred and fifty-seven head were purchased in Ontario and shipped for sale direct to farmers in various parts of the province. In addition some three hundred and eighteen head were purchased and sold within the province. In Ontario many sows of good type were selected with the advice of graders at local shipping points. In Alberta, 42 Yorkshire gilts were purchased and sold to Vermilion Club members, in addition to sales of Yorkshire sows to a number of districts settled by Ukrainian settlers. In every case where good type sows were purchased the farmers were advised as to the advisability of using good type boars with the result that clubs where improved type sows are being bred are practically all using bacon type boars. The effects of this breed improvement work is not as yet making itself felt in any large degree on the quality of hogs sent to market, but the effects will be quite general within a year. In fact hogs marketed this fall from sections of the Peace River District, Alberta, where upwards of two hundred head of bacon type breeding stock, mostly boars, had been placed a year ago, were grading an average of twenty-seven per cent select bacon hogs, whereas the average of hogs from other parts of the province was less than four per cent.

Markets Intelligence and Stock Yards Service Division

During the past five years, services to the live stock industry, supplied through the Markets Intelligence and Stock Yards Service Division activities, have been successful to a marked degree in improving the conditions under which the live stock surplus of Canada is marketed.

This service aims to promote efficient and intelligent marketing on the part of the producer, and as well, to regulate and improve the services through which the farmers' stock is bought and sold on public stock yards, in all provinces of the Dominion. Confidence thus promoted, is resulting in a more steady tone to production and a stimulation of interest in the marketing of a better type of commercial animal.

Nothing will do more to inspire confidence in production and marketing than a thorough knowledge of the business of marketing, fair marketing costs, equal opportunities for all in purchase and sale, and accurate, disinterested and timely information as to the live stock market situation; all of which facilities are provided through this service. These facilities tend to safeguard against abnormal market situations, by promoting intelligent liquidation and a preponderance of the more marketable types of live stock. Only through a special organization, the personnel of which is in constant, intimate and sympathetic touch with the whole live stock market situation, is it possible to carry out the intent of the markets policy.

The Live Stock and Live Stock Products Act, 1917, providing for Federal control of Stock Yards, is the authority under which the Stock Yards Service operates. Regulations under the Act are enforced under the direction of the Chief of the Stock Yards Service, through officers of the Live Stock Branch stationed at the Public Stock Yards at Montreal, Toronto, Winnipeg, Moose Jaw, Prince Albert, Calgary and Edmonton. The markets publicity phase is provided through the stock yards officers and their assistants in conjunction with the Markets Intelligence Service staff in the Live Stock Branch at Ottawa.

During the past year approximately 865,000 cattle, 265,000 calves, 800,000 hogs and 590,000 sheep, roughly valued at $35,000,000 on cattle, $2,250,000 on calves, $14,300,000 on hogs and $3,500,000 on sheep and lambs, a total of $54,750,000, were sold at the stock yards under conditions supervised by the officers of the Branch. All the above stock, besides passing under the supervision of the stock yards agents, has also been checked and recorded as to point of origin, sale and disposition, so that the Department may on the basis of that and previous information, build up a reliable record of live stock output.

ACTIVITIES DURING 1922

The activities of this service during the past fiscal year and since its inception, were as follows:—

The enforcement of regulations made under the Live Stock Products Act, 1917, and first effective in August, 1918, has resulted in the bonding of all commission men, operating on public stock yards, the organization and reorganization of live stock exchanges, the elimination of undesirable traders and practices on the yards, the standardization and approval of the rules and regulations under which live stock exchanges operate; standardization of all charges made on the yards by the stock yards company or by commission men, improvements in the accommodation for live stock, and the regulating of the quality and charges on feed supplied by the stock yards companies.

One of the most important regulations provides that all weigh scales at stock yards used in the weighing of commercial live stock, shall be equipped with a type-registering beam so that buyer and seller shall be supplied with official and accurate record of the weights of all commercial live stock sold over the scales. The application of this regulation permanently removes the source of much dissatisfaction among buyers and sellers, in placing weights beyond any question of doubt as to their accuracy, and if disputes arise, provides a sound basis on which to settle the same.

The operation of a stock yard includes the charge for service and supplies, such as loading, unloading, hay, straw and meal, weighing, etc. The charges for these are subject to the approval of the Department, and when submitted for approval as required under the Act, are given the most careful attention, and whatever rates are allowed are considered by the Department to be fair operating costs and in line with reasonable returns for services rendered. Each stock yard

company submits a monthly statement of original cost of feed, selling cost and gross profit per unit.

The relative charges for feed as between the various yards, varies according to purchase price, the cost of operation, including labour and capital invested. It is understood of course that feed charges include the services of the men employed by the stock yards companies in the actual feeding and watering of the stock, the cost varying, according to the market for labour and supplies.

In order to prevent overcharges on live stock consignments or purchases, all exchanges are required to submit their schedule of selling and buying charges to the Department for approval and no changes or modification may be made in the schedule until such has been approved by the Minister. Strict regulations are laid down by the exchanges, as regards the rendering of accounts of purchase or sale, and every scale ticket issued must represent a bona-fide sale and bear the price and name of the owner and purchaser of the live stock represented. Account sales to shippers must be made and settled within forty-eight hours from time of transaction.

It is at once apparent that the effective elimination of questionable methods in the purchase and sale of live stock, through the co-operation of the exchanges with the Department of Agriculture has tended to return to the owner of the stock, a larger share of the proceeds of the final sales than otherwise would be the case. In effect, the overhead is reduced by the elimination of unjust charges and prices are stimulated through encouraging the fullest competition the market may offer.

The reasonable attitude being taken by the yard companies toward the regulations in the realization of the constructive force behind the same, and the general evidence of a desire to co-operate with the Branch in the work of conforming conditions to the requirements under the Act, is resulting in very satisfactory progress towards efficient service.

The Branch, through this Division is now endeavouring to develop a form of trust account for the live stock commission houses at stock yards, with the primary object of protecting the industry against financial losses, so as to promote the commission business to a higher plane than formerly.

The stock yards agents have recently extended their activities toward promoting familiarity with required market types of live stock. On request, the agents address meetings, pay visits to farms for the purpose of grading the stock into the various classes and commenting on the commercial value of each, and, as well, encourage the clearance of unsuitable feeding stock and the purchase of that of good feeding type and quality.

CONSERVATION POLICIES

The stock yards agents and their assistants have charge of the detail of the Free Freight and Carlot policies of the Department. It is conceded that the benefits derived by the live stock industry, particularly in the western provinces, from the operation of these two policies, have been particularly satisfactory. Under the Free Freight policy, thousands of good breeding females have been saved from slaughter and returned to the farm, to form the nucleus of, or addition to, the breeding herd. The terms of this policy allow free freight on heifers purchased by bona-fide farmers, for breeding purposes.

Under the Carlot policy, stimulation is given to the little enough practised art of winter feeding and to the utilizing of unoccupied pasturage for grass feeding. Bona-fide farmers wishing to purchase a car lot of feeding cattle at their nearest public stock yards are allowed free transportation and reasonable

living expenses. In this way a large number of unfinished cattle which would otherwise be sold and butchered as common steers, are turned into choice butcher stock, and thereby contribute to the net returns from the live stock industry. In connection with these policies, the stock yards agents are called upon to consider the merits of applications made and to provide advice and assistance in the actual purchasing of the cattle.

The administration of the policy whereby immature calves offered for sale on public stock yards are subject to condemnation is administered through the Live Stock Commissioner by the stock yards representatives. Suitable calves are allowed to be shipped for store purposes. This policy has been effective for a number of years and has resulted in marked improvement of the quality in veal.

Work is now being undertaken in support of the new hog grading policy of the department. The Markets staff in the Branch is taking care of the records of grading and prices, paid on the new basis of graded sale. The trend of production and marketing is being interpreted from the records submitted by the official graders and statements on which to base practical and close-up publicity work are being prepared for the swine grading officers. The stock yards agents are assisting the graders in every way possible and are co-operating with the Swine Division in promoting satisfactory development of the work.

MARKETS INTELLIGENCE SERVICE

Having taken measures to provide every reasonable facility for the handling of live stock yards, the Branch has also undertaken to provide a source of markets information that is absolutely unbiased, dependable and of a sufficiently analytical character to indicate current market conditions without tendency to mislead.

The stock yards agents through whom the Department administers the Live Stock and Live Stock Products Act, as it applies to stock yards, function, as well, as the source through which up-to-date, unbiased markets information is gathered and distributed for producers and others who may benefit thereby. These officers and their assistants also obtain the detail of every sale of live stock made and on this first-hand information, coupled with an intimate knowledge of market conditions, telegraphic reports are distributed twice daily to all parts of Canada. The mass of statistical data procured is forwarded daily to Ottawa, where it is recorded and co-ordinated with comments on the general market situation, to form the basis of a detailed weekly review of actual conditions of supply and demand on all stock yards in Canada. On the basis of the accumulated statistics of sales, disposition, prices, origin of stock, etc., periodical reports are also produced and in conjunction with data on foreign markets, afford a comprehensive review of the whole live stock situation. In this way, conditions and prospects as relating to the production and marketing of live stock are interpreted for the benefit of the producers and others interested.

In addition, the Markets Intelligence staff at Ottawa devotes a considerable part of its time to compiling live stock and trade statistics for publication and on request, interprets specific conditions in the industry, and supplies the press with articles, news items and other information: all of which is essential to efficient expansion in the live stock industry. In addition to the information supplied as regards the domestic situation, the Branch also provides cable services in connection with the British market for Canadian cattle and bacon, the information obtained being distributed throughout the nine provinces by wire, mail and press.

Through this service, Canadian shippers of live stock are kept in constant touch with the purchasers in the British Isles, the latter being given every encouragement to establish trade connections with our shippers. Many hundreds of inquiries as to store cattle prospects have been dealt with. Recently, the Live Stock Branch commenced a market news cable service distribution through the newspaper press of Great Britain, with the object of familiarizing the British graziers with the condition of the Canadian market for store cattle and stimulating exports thereby.

The Branch is also preparing to supply through this service a more extensive cable service on the store cattle market in Great Britain, and in other ways further to imform the Canadian producer, on the live stock and meat trade situation in the British Isles.

It is felt that the service as a whole is being well rounded out and is functioning to meet the needs of the live stock industry.

There has never been a time in which attention to marketing is more necessary than at present. Competition in the world's outlet for surplus live stock is more keen to-day than ever before. Only on the basis of economic production, economic marketing, and economic distribution of a high class product, can the Dominion expect to hold a prominent place in the British market and in other outlets for our surplus stock.

All branches of industry are to-day rightly concerned with the problems involved in the selling and distribution of merchandise, and the work of the Department in supervising stock yards activities and in producing an elaborate markets information service, represent in a practical way, its efforts to deal with these problems as they affect the live stock industry in Canada.

Exhibits and Publicity

During the past fiscal year exhibits covering the activities of the Branch have been shown at the following large exhibitions and shows: British Columbia —Vancouver, New Westminster, Victoria; Alberta—Calgary, Camrose, Edmonton, Red Deer, Lloydminster; Saskatchewan—Saskatoon, Regina, Paynton, Weyburn, Prince Albert, North Battleford; Manitoba—Brandon; Ontario—Toronto (Canadian National), Ottawa (Central Canada), London, Picton (Fall Show), Napanee, Hamilton (Poultry Show), Exeter, Richmond, Renfrew, Toronto (Royal Show), North Bay, Sudbury, Sault Ste. Marie, Simcoe, Picton (Poultry Show), Ottawa (Winter Fair), Chatham, Guelph, Essex, Hamilton (Corn Show), Middleville, Lindsay, Metcalfe, Paris, Petrolia, Smiths Falls, Almonte; Quebec—Valleyfield, Three Rivers, Sherbrooke (Fall Show), Quebec, Sherbrooke (Poultry Show); New Brunswick—St. John, St. Stephen; Nova Scotia—Yarmouth, Antigonish, Amherst, Glace Bay, Stellarton, Truro, Halifax, Oxford; Prince Edward Island—Charlottetown, Summerside.

Standardization, co-operative marketing, and economic production are the phases of the poultry work that have been featured. Applications for literature and requests for exhibits and demonstrations show this means of placing the general public in touch with work of the Branch is still very popular. There has been little or no cessation in the demand for candling appliances and it is anticipated as a result of the advertising campaign conducted some months ago that the interest of consumers in a graded article, and the demand for candling appliances will be larger this coming fiscal year than previously.

Following the work done last year, exhibit material has again been loaned to retailers and others for the purpose of making attractive window displays in connection with the sale of graded eggs. In some instances exhibits and candling demonstrations have been given and many hundreds of people have shown their interest in this phase of the work.

The sheep and wool exhibits featured the value of the pure-bred ram in flock improvement, market grades of lambs, Canadian wool grades and Canadian made woollen goods. A special feature in wool exhibits was the section devoted to homespun fabrics. These goods, which were all made in Canadian homes, attracted a great deal of interest.

The bacon hog and its relation to Canada's swine industry was made a special feature of the swine exhibit section. The ten official hog grades were also outlined and illustrated with transparencies showing representative specimens of the various grades. The grading of Canadian bacon was also illustrated by transparencies showing Wiltshire sides of desirable and undesirable grades. The swine exhibit did much to acquaint the farmers with the relationship between live hog grades and the grading of Wiltshire bacon for export.

The scope of the exhibit work of the Branch was further extended during the year, through the addition of displays by the Horse Division, Cattle Division, and Markets Intelligence and Stock Yards Service Division.

The exhibit arranged by the Horse Division at the Royal Agricultural Show, Toronto, consisted of an elaborate photographic display, depicting the required types of commercial horses, hunters, jumpers, carriage pairs, saddle horses, ponies, etc. The photographs were specially produced from subjects chosen by officers of the Branch and enlarged for exhibition purposes. In addition a continuous moving picture service was provided. This film was of considerable educational value, as illustrating the performance of a collection of some of the best hunters and jumpers in the Dominion, as well as the methods adopted in training jumpers for show work. The exhibit as a whole proved of considerable value.

A convincing demonstration of the value of the pure-bred sire in the herd, was provided by the Cattle Division, for exhibit at the Royal Agricultural Show, through the medium of a photographic story, adequately titled.

The exhibit consisted of a series of excellent photographic enlargements of subjects specially chosen and photographed for the purpose. These were arranged in related sequence to illustrate the value of the pure-bred bull in the herd, whether on the western prairies or in eastern feed-lots. The chief attraction of this exhibit was a series of illustrations projected from a moving picture machine, to show by contrast the value of improved breeding and feeding in the beef cattle industry of the Dominion.

The exhibit of the Markets Intelligence and Stock Yards Service Division, consisted of a series of large charts, illustrating market movements and prices of commercial live stock. The exhibit was designed particularly to impress upon the producer the value of regulating the movement of stock to the market, of finishing before marketing, and meeting market requirements as to weights and seasonable outlet. The relative standing of the competitors for the bacon trade of Great Britain was shown in graph form. This exhibit was displayed at the Canadian National Exhibition and the Royal Agricultural Show.

The use of live animals in connection with the exhibitions at the larger centres for the purpose of demonstrating the differences between good and poor producing and market specimens has again been a feature of the exhibits. This was particularly evident at the Royal Winter Fair at Toronto. Motion pictures have also been a feature at many of the exhibitions during the past year and it is anticipated that with the more powerful machine now in use it will be possible to extend this line of activity to other shows.

In addition to the exhibits much valuable publicity has been obtained for the Branch through press notices dealing with particular and special phases of the work. These constitute a very strong link between the Department and producers.

MOTION PICTURES

Motion pictures have been used by the Live Stock Branch during the past two years. Projection machines have been distributed to officers of the Branch in charge of certain districts or provinces. The distribution of projectors and films is done entirely from Ottawa; the arranging of meetings at which the pictures are to be shown is left in the hands of the district officers.

The Acme—a standard machine—is used and all pictures are printed on non-inflammable stock.

Some strictly technical films have been made. Scenarios are prepared by officers of the Branch, who also superintend the locating of suitable settings for the pictures, the necessary properties, etc.

The pictures are taken, developed, printed and given their first test by the Publicity Bureau, Department of Trade and Commerce. This bureau is fully equipped for the work, and the different departments of the government are charged the bare cost of production.

Although there is a certain disadvantage in the treating of highly technical subjects, this will be practically eliminated by the use of a projection machine with a special shutter which allows for the stopping of the picture at any particular scene. There may be points upon which it is necessary to elaborate, and with this new device the motion picture may be stopped, and subject explained and discussed. The particular point explained, the motion picture is continued.

The programme of the meetings at which these pictures are shown is usually arranged to provide some variety. A short address on the subject of the technical films, and one or two scenic films. The latter are also secured from the Department of Trade and Commerce, being part of the "Seeing Canada" series that is now receiving world-wide distribution.

The motion picture as a means of actually depicting agriculture in all its varied phases is increasing in popularity. Officers of the Live Stock Branch report good results from the use of the pictures and the pictures are in increasing demand.

THE SEED BRANCH

The Seed Branch maintains laboratories or analytical services for the testing of seeds, feeding stuffs and fertilizers; encourages the production and marketing of superior seeds for domestic requirements and export; provides an inspection service for the administration of the Seed Control, Feeding Stuffs and Fertilizers Acts; and maintains the Seed Purchasing Commission.

Seed Testing and Feed Analysis

During the year April 1, 1922, to March 31, 1923, 33,115 samples of seed and feed were examined for purity, germination, or percentage composition. The following table shows the number of samples and their source tested by each laboratory:—

	Ottawa	Toronto	Winnipeg	Calgary
Trade	8,999	3,795	2,129	3,069
Customs	1,295	1,350	2,021	2,013
Official	894	46	269	196
Feeding stuffs	103	.....	468	85
Investigation	4,912	.....	1,103	368
	16,203	5,191	5,990	5,731

Trade refers to samples of seed sent in by merchants, farmers and institutions.

Customs refers to samples of seed taken from imported shipments by the customs officials.

Official includes both seed and feed samples taken by inspectors from lots which are sold or offered for sale and suspected of violating the Seed Control or the Feeding Stuffs Acts. Prosecutions are based on the results of analyses of such official samples.

Feeding Stuffs in this list includes all feeds, and in addition condiments and tonics sent in by farmers, merchants and others who desire to know the approximate composition and value.

Investigation comprises all work of an experimental nature which is outlined below.

MICROANALYSIS OF FEEDING STUFFS

The work in microanalysis of feeding stuffs is expanding rapidly. During the past year over two hundred samples of mill feeds, cereal products, screenings, concentrates, condiments, medicated feeds and tonics have been examined microscopically, and many violations of the Feeding Stuffs Act have been discovered. Largely on the evidence of microscopy several court cases have been successfully completed, and numerous infringements, not proceeding to legal action, have been discouraged.

A review of the analyses shows many cases of misrepresentation and the clever use of adulterants. Various and ingenious have been the products sold as one or other of the mill feeds, care being taken in all cases to make them comply with the required chemical standards. Feeds sold as shorts have been found to consist of ground bran and feed flour; middlings to consist of feed flour and ground shorts. Ground corn, oat hulls, oat shorts, germ meal, rye middlings, screenings and ground wheat of poor quality and containing smutted or ergotized grains have been used as adulterants in all classes of mill feeds. In many cases cereal by-products have been added to cereals and the whole ground and sold as pure chop. Many of the medicated feeds have been found considerably misrepresented in their statements of contents, the same feed varying widely in its ingredients and in the proportion of each from time to time.

A number of unofficial samples, received with accompanying complaints from farmers, merchants and others, have been medicated feeds or tonics. In these, moss or club moss with accompanying debris has been used as a filler, and often as the chief ingredient. The most commonly used adulterants in all classes of feed have been ground screenings and oat hulls. Gradually, however, the sale of feeds is being brought under control, and an increasing number of manufacturers are acknowledging the presence of screenings and registering the feeds in compliance with the Feeding Stuffs Act. The fraudulent use of oat hulls has been checked, due in part to the educational circular on oat hulls.

Microanalysis of feeding stuffs is a new process, and throughout the year all the investigational work possible for the establishing of new and better methods in the identification of ingredients and the determination of percentages of each has been carried on, and much progress has been made.

INVESTIGATION AND RESEARCH

Between trade seasons a considerable amount of special work is carried on, some of which is not listed in the table above. The following problems have been investigated to some extent during the past year:—

1. Testing of standard samples supplied by the European Association of Seed Analysts and the Association of Official Seed Analysts of North America, with a view to standardizing, in so far as practicable, laboratory methods of seed testing.

2. Continuation of longevity tests of field and garden seeds, including the comparative longevity of Canadian and foreign grown seeds.

3. A study of Canadian grown red clover seed. This work is being conducted in collaboration with European and American workers, and involves a study of the characteristic weed seeds of the red clover producing areas of Europe and North America.

4. Effect of heat on the vitality of corn. This was carried on as a part of the corn borer investigation of the Entomological Branch.

5. Investigating different methods to secure maximum efficiency in germinating certain seeds.

6. Correlation of laboratory and field germination tests. This is to ascertain the value of laboratory results as compared with actual field growth.

7. Study of hard-seededness in alfalfa and clover seeds. A considerable number of these seeds remain hard and dormant and will not germinate along with others, but may grow later.

8. Effect of different storage conditions on Canadian grown seed of low vitality. The question has arisen as to whether seeds will keep better in cold storage.

9. Effect of storage on sunflower seed.

10. Microanalysis studies in the qualitative and quantitative determination of ground feeding stuffs, stock tonics and fertilizers.

EDUCATIONAL WORK

A circular "Oat Hulls and their Use in Feeding Stuffs" was published and distributed to the public.

The two book publications "Farm Weeds of Canada" and "Fodder and Pasture Plants" have been reprinted and are on sale at the office of the Superintendent of Stationery.

The Seed Division

The Seed Division devotes attention to that part of production pertaining to interprovincial and interdistrict commerce in seed supplies and to the Canadian production and international trade in seeds of all kinds.

Laws and regulations applying to the export and import of seeds by certain countries have a very important bearing on Canadian seed supply. The trend of the trade in many kinds of seeds would seem to indicate that unless our seed control regulations are equivalent to those of other countries we are apt to have on our markets too much of the seed of a quality that cannot be marketed to advantage in those countries, because of their higher standards and more efficient control.

This matter was carefully studied and a new Seeds Act has been drafted to replace our present Seed Control Act, which will bring all phases of seed control on a level deemed necessary in the best interests of Canadian agriculture. Preparing provisions for this seed law and regulations thereunder constitutes an important part of the work of the Chief of the Seed Division. In carrying these regulations into effect a general supervision over each inspection district co-ordinates the work of each district inspector and establishes uniformity particularly in respect to the grading of seed for commerce.

Seeds imported into Canada are subjected to inspection and tests under the provisions of the Seed Importation Regulations. The following table shows the Canadian imports and exports of seed by main classes during the fiscal year ending March 31, 1922:—

Class of Seed	Imports in 1922	Exports in 1922	Favourable or adverse balance
	lbs.	lbs.	lbs.
Alfalfa	844,986	46,020	— 798,966
Red clover	2,153,860	457,860	— 1,696,000
Alsike	87,547	8,944,500	8,856,953
Other clover	191,571	6,011,280	5,819,709
Grasses, including timothy	11,060,710	4,144,272	— 6,916,438
Flax		863,408	863,408
Sunflower	196,914		— 196,914
Other forage crops and seed grain	1,186,183	1,450,000	263,817
Vegetable	1,663,689		— 1,663,689
Field root	410,123		— 410,123

Importations of red clover seeds of southern origin, during the past season, gave cause for some anxiety on account of reports received of such seed not being winter hardy when grown in northern climates. Samples of red clover seed were collected direct from southern France and Italy, and tests were started in co-operation with the Experimental Farms Branch to test out the hardiness of these southern grown red clover seeds when grown in different localities in Canada. If these tests prove the reports to be true that seed from these sources is not winter hardy, then necessary legislation will be provided to safeguard Canadian users of seed.

For this spring's sowing a few pounds of Montgomery red clover seed has been obtained from Professor Stapledon, Director of the Plant Breeding Station, Aberystwyth, Wales. This is a variety proven most adaptable to English conditions, and has been brought here to try out with a view to developing two or three seed centres in the clover growing districts. It is the intention to export this variety of red clover seed under Seed Branch inspection to meet the demands of the English market. Progress has been made in the multiplication of special strains of orchard grass and white clover imported from Europe last year with the ultimate object of producing these seeds in car lot quantities for export.

Active measures were taken last fall to provide grade standards for Canadian grown alsike and red clover for export, and effort is being made to give the best assistance possible to the Canadian seed grower and seed trade in the development of this market. In addition to clovers and grass seeds considerable quantities of northern grown superior quality seed grain have been exported, and the demand for these seeds is increasing from year to year.

INVESTIGATION

In connection with the control of the trade in field root and garden vegetable seeds, samples are taken from the retail dealers of the different kinds and varieties distributed by wholesale seedsmen and are tested at Ottawa for vitality and genuineness of variety. The latter is determined by field tests conducted in co-operation with the Forage Plant and Horticultural Divisions of the Experimental Farms Branch. Last year 116 plots of field root and 386 plots of garden seeds were tested, and reports were made to each wholesale seedsman whose seeds were under test, indicating the vitality and percentage of plants true to variety name and accompanied by photographs showing the quality of typical roots harvested from each field root plot. These reports have resulted in increased in-

terest by the seed trade in the quality of seed stocks distributed by them. This work for 1923 is being extended to test more kinds and varieties, and in addition to vitality and purity of variety tests a report will be made of the genuineness of variety names and truth as to description of varieties under sections 6 and 7 of the new Seeds Act.

CO-OPERATION WITH THE PROVINCES

For encouraging the production of high grade, hardy, northern grown seed for commerce, subventions are paid to Provincial Departments of Agriculture towards conducting seed crop competitions, combined seed crop and cleaned seed competitions, seed fairs, and provincial seed exhibitions. The maximum amounts made available for these competitions from the Seed Branch appropriation are as follows:—

Standing Seed Crop Competition	$ 50 00
Combined Seed Crop and Cleaned Seed Competition	200 00
Local Seed Fair	75 00
Provincial Seed Exhibition	600 00

Any one agricultural society is eligible to conduct two competitions, including either a seed crop competition and seed fair, or a combined seed crop and cleaned seed competition and seed fair. The subvention grants are payable to the Provincial Departments of Agriculture on the basis of two-thirds of the premiums paid by the provinces in prize money but do not exceed the maximum amounts above named. The provinces pay the cost of organization and judging, so that the expenditures by the Provincial and Dominion Departments of Agriculture are about equal.

The subventions paid by the Seed Branch on account of these competitions held during the fiscal year ending March 31, 1923, were as follows:—

Standing Seed Crop Competitions

	Number	Amount
Prince Edward Island	7	$ 321 14
Nova Scotia	8	310 40
New Brunswick	26	1,285 33
Quebec	119	5,633 25
Ontario	244	12,200 00
Manitoba	45	1,563 22
Saskatchewan	114	3,998 06
Alberta	2	100 00
	565	$ 25,411 40

Combined Seed Crop and Cleaned Seed Competitions

Prince Edward Island	5	$ 591 49
Nova Scotia		
New Brunswick	4	393 34
Quebec	14	2,416 67
Ontario	35	7,000 00
Manitoba	1	158 00
Saskatchewan		
Alberta		
	59	$ 10,559 50

Local Seed Fairs

Prince Edward Island	3	$ 132 83
Nova Scotia	4	230 50
New Brunswick	5	325 50
Quebec	73	3,550 26
Ontario		
Manitoba	26	1,012 58
Saskatchewan	26	969 34
Alberta	7	516 00
	144	$ 6,737 01

PROVINCIAL SEED EXHIBITIONS

Prince Edward Island		
Nova Scotia	1	600 00
New Brunswick	1	202 50
Quebec	1	600 00
Ontario	2	1,200 00
Manitoba	1	600 00
Saskatchewan	1	495 34
Alberta	1	600 00
	8	$ 4,297 84

In the case of British Columbia an annual grant of $2,500 is paid by the Department of Agriculture towards encouraging the production and marketing of field root and garden seeds. The Provincial Department of Agriculture authorizes the expenditure of an equal amount for this purpose.

ASSISTANCE TO CANADIAN SEED GROWERS' ASSOCIATION

The Canadian Seed Growers' Association is a national organization of farmers who specialize in the production of Registered and Extra No. 1 seed. They multiply for commerce the foundation stock seeds called "Elite Stock Seed" produced by Dominion and Provincial Experiment Stations and sometimes by provincial growers.

The association office functions as a registration bureau for seeds; maintains systematic records of their history and pedigree; directs the work of the growers; provides inspection of the threshed grain at a small cost; publishes a seed catalogue, and serves as a clearing office for marketing. Registered and Extra No. 1 seed provides much of the seed stocks for field crop competitions, local seed fairs and provincial seed exhibitions.

Complete information as to the work of the association may be obtained from their Annual Report published in 1922. Financial support from the Seed Branch was continued during the past year to the extent of $10,000.

THE FEED DIVISION

Under the provisions of the Feeding Stuffs Act all commercial feeding stuffs to be offered for sale in Canada must first be registered with the Department, such registrations to expire on the last day of September following the date of issue. The following table shows, by provinces and foreign, the number of manufacturers securing registrations, and the number of feed products registered during the past registration year.

Province	Number of Manufacturers	Number of Registered Brands
Alberta	9	23
British Columbia	27	105
Manitoba	12	22
New Brunswick		
Nova Scotia	2	11
Ontario	137	417
Prince Edward Island		
Quebec	17	64
Saskatchewan	3	4
Foreign	21	40
Totals	228	686

By careful and systematic inspection of feed manufacturing plants and materials employed therein, and by analyzing botanically, microanalytically and chemically feed samples secured by inspectors in the wholesale and retail trades, much has been done during the past year to expose and stamp out fraudulent and misleading practices in the feed trade. The illegal adulteration of wheat mill feeds with oat hulls, the substitution of oat hulls for oats in chop feeds, the incorrect and misleading labelling of feed products, and other irregular practices of a similar nature quite common in former years, and particularly during periods of feed scarcity, are now rarely attempted, and retailers more and more are demanding of manufacturers to be supplied only with feed products that in all respects comply with the provisions of the law.

Tactful but firm methods in dealing with violators of the Act have usually secured prompt and satisfactory adjustments without recourse to the courts, but deliberate and persistent violators have been prosecuted with salutary effect.

By-products resulting from the manufacture of flour from wheat have received careful study. Following a special survey of the practices employed in all sections of the flour milling trade, and a check as to the chemical composition of the various by-products produced at the different mills, conferences were arranged between representatives of the live stock and milling industries and departmental officials, and the following classification and standards of quality were agreed upon and made effective by regulation:—

	Minimum Protein	Minimum Fat	Maximum Fibre
	%	%	%
Bran	15·00	3·50	11·50
Shorts	16·00	5·00	8·00
Middlings	16·50	3·50	4·50
Feed flour or low grade flour	.....	.....	2·00

The enforcement of these standards has eliminated much of the feeders' cause for complaint regarding the inferior quality of mill feeds placed on the market during recent years.

The practice of manufacturing wheat mill feeds, and particularly shorts, into commercial feeding stuffs by adding thereto the screenings removed from the wheat prior to milling, is quite general amongst the larger milling concerns, and has, with some justification, given rise to many complaints on the part of feeders. This practice unfortunately lends itself to certain abuses, which, if persisted in by manufacturers, will necessitate legislative amendments to regulate more rigidly the sale of wheat by-products.

Particular attention and study have been devoted to elevator screenings with a view to devising methods for placing the sale of this material on a more satisfactory and equitable basis, thus preserving for Canadian feeders a very large quantity of valuable feed which has hitherto largely found its way out of the country. Upwards of a hundred and fifty thousand tons of screenings are removed annually from grain at the terminal elevators at the head of the great lakes. Because of the content of chaff and dust and of mustards and other objectionable fine weed seeds, these screenings in their original state find practically no market in Canada, and in past years the bulk of them has been exported to the United States. When properly recleaned they constitute a valuable and economical feed for mature stock. Accordingly some two years ago a conventional grade was established for "Standard Recleaned Screenings," since which time this class of screenings, which may contain a maximum of three per cent of chaff and dust and three per cent of fine weed seeds, and shipments of which

may be covered by a grain inspector's certificate, has rapidly increased in popularity and demand. During the past year many thousand tons of Standard Recleaned Screenings have been purchased by Canadian feeders, and the benefits accruing from the establishment of this grade are recognized alike by feeders and owners of elevator screenings.

Much valuable and reliable data regarding the exact composition of all classes of elevator screenings have been collected, which it is confidently believed will provide a suitable basis for the further standardization of screenings in the interests of all concerned.

Standardization as to name and quality of the numerous feed materials found on the market is an important feature of feed regulatory work. The development of new industries and the constant changes and improvements in the manufacturing processes of established industries from which by-product feed materials result, necessitate from time to time additions to and revisions in those standards already fixed. As an educational feature representative collections of feed materials have been put up in suitable cases for distribution to agricultural colleges and schools, and are also available at a nominal charge to agricultural representatives and others engaged in agricultural extension work.

Markets and Fertilizer Division

This Division compiles and issues seed crop and market reports, renders assistance in seed marketing, supervises registrations of fertilizers, and assists in the administration of the Fertilizers Act, 1922.

SEED CROP AND MARKET REPORTS

These reports were issued from time to time during the production and market seasons, the object being to provide farmers and dealers with authoritative information that would guide them when buying and selling seed. Only those who demonstrated an interest in the reports, by supplying local information, were placed on the mailing list to receive them. The number of people interested in the reports is increasing as the value of the reports is becoming known.

SEED MARKETS EXTENSION

Suggestions were offered and directions given to growers who desired to improve their organization for seed marketing. Blue-print plans, specifications and bills of material for a small capacity seed elevator that would be suitable for operation by a farmers' club were prepared and made available to the public at two dollars per set. The demand for these blue-prints has been satisfactorily large.

FERTILIZER CONTROL

The fertilizer control work, conducted in accordance with the Act regulating the sale of agricultural fertilizers, consists in the registration of the various brands to be offered for sale, the examination of fertilizers at the place of manufacture, distribution and sale, the inspection of methods of labelling and selling, the procuring of official samples for analysis to check the manufacturers' or importers' guarantees of plant food substances and fineness, and the prosecution of those parties considered guilty of violation of the law.

All registrations under the Fertilizers Act, 1922, expire on July first following the date of issue, but may be renewed from year to year. From July 1, 1922, at which time the Act came into effect, to May 4, 1923, registrations were assigned to sixty-one manufacturers and importers covering 305 different brands of fer-

tilizers. By provinces, and foreign, the number of firms who applied for registrations and the number of registrations assigned were as follows:—

Province	Firms	Registrations
Nova Scotia	9	48
Prince Edward Island		
New Brunswick	1	5
Quebec	8	26
Ontario	16	114
Manitoba	1	1
Alberta	2	4
British Columbia	11	25
Foreign and United States	13	82
	61	305

The total fees collected for registrations amounted to $6,091.00. The principal kinds of fertilizer for which application for registration was made include:—

1. Chemical fertilizer of different but complete formulæ.
2. Fertilizer carrying organic nitrogen and phosphoric acid of different but complete formulæ.
3. Bone products.
4. Tankage.

On the whole the trade has generally observed the provisions of the Act and willingly made the necessary adjustments where the need of such has been directed to their attention. The provisions of the present law are different in many respects from those previously in effect under the Act of 1909 and amendments of 1919, and the trade has been more or less confused while making adjustments in the methods of manufacture and sale of the fertilizer to conform with the new provisions during this their first year of enforcement. Only in isolated instances where manufacturers have deliberately aimed to defeat the purpose of the law has it been found necessary to recommend prosecution.

Analytical services in respect of chemistry under the Fertilizers Act have been obtained from the laboratories under the Department of Health and those of Canadian universities and colleges. At present there are twenty-two official analysts authorized under the Fertilizers Act, 1922, to receive official samples from inspectors and the public and issue certificates of analysis thereon. During the year 387 official samples, representing as many brands of fertilizer, were analyzed and reported.

Since the Fertilizers Act, 1922, came into effect marked improvement has been observed in the trade in the reduction of the number of brands of fertilizer of low analysis, misleading brand names, and the multiplicity of brands, which factors heretofore tended to confuse the purchaser.

Maritime District

The district office of the Seed Branch in the Maritime Provinces is located at Truro, N. S., and the work is directed by a district inspector. Four seasonal inspectors are employed during the busy season of the seed, feed and fertilizer trade.

SEED PRODUCTION AND SUPPLY

The 1922 season was particularly favourable to crop production in this district. The No. 1 seed oats supplied through the Seed Purchasing Commission gave excellent results, and farmers will not be satisfied to purchase ordinary

commercial oats as seed in future years. The requirements for the 1923 seeding of cereal grains are being met within the district, and Prince Edward Island supplied thirty thousand bushels of Extra No. 1 and No. 1 seed oats to Quebec.

The combined seed crop and cleaned seed competitions, which are conducted by the Provincial Department of Agriculture in co-operation with, and financially supported by, the Seed Branch, are proving very effective in encouraging the organization of seed centres, particularly for oats and potatoes. Local seed fairs and provincial seed exhibitions brought out a large display of the very best seed this year, and served as valuable advertising and marketing agencies to the growers. Our inspectors act as judges at these competitions and fairs, and the district inspector assists in training the provincial judges for standing crops.

INSPECTION

In addition to towns scattered along 3,666 miles of railway there are many seaport towns which have to be visited by our inspectors. During the past year 917 visits were made to points requiring inspection; 1,024 inspections were made of seed warehouses, 1,597 of feed, and 57 of fertilizer warehouses. There were 14 suspected violations of the Seed Control Act and 25 of the Feeding Stuffs Act. Court action will be taken on the more serious offences. The six cases under the Seed Control Act, recommended for prosecution on the 1921-22 season, were all successfully conducted. Maritime farmers prefer to buy pure feeds rather than the mixtures sold as commercial feeding stuffs. The bran and shorts on the market were up to standard, but middlings gave considerable difficulty. Fertilizers were generally well up to the guaranteed analysis.

EDUCATIONAL WORK

Several meetings were addressed to explain the new Fertilizers Act. Judging classes were conducted at seed fairs, and assistance was given in provincial short courses in agriculture. The district inspector acted as a judge of potatoes at the Royal Agricultural Fair, Toronto.

Quebec

The organization in Quebec included a district inspector with headquarters and staff in Quebec City, and six permanent and seasonal inspectors, stationed at suitable places in the province. Since the enforcement of the Feeding Stuffs Act was taken over by the Seed Branch it was found necessary to appoint an inspector for the Montreal District, with headquarters in that city. This was done largely on the request of the seed merchants and millers in Montreal.

SEED PRODUCTION AND SUPPLY

Field crop competitions were held in every county in Quebec this year, and were followed by seed fairs in every county also. The different kinds of crops entered in the field crop competitions and seed fairs included oats, wheat, barley, grass seed, potatoes, etc. More farmers took part in these competitions last summer than previously, showing their increasing interest in this work. Two special competitions were organized with Alaska oats. This early variety is becoming more popular every year in districts where the growing season is short. The combined competitions were held in eighteen counties, the number of competitors being 1,297. The quantity of cleaned seed inspected was 27,800 bushels. Of this, 33 per cent graded No. 1, 50 per cent No. 2, and the balance graded No. 3. The germination of oats averaged 95 per cent, and the weight per measured bushel 36·5 pounds, the variety being mostly Banner. This

work contributed also in encouraging the farmers to grow clover seed. Over 200 farmers took part in the competitions with clover, but due to the lack of facilities for cleaning, over 30 per cent of the samples were rejected. Nearly every farmer who took part in these competitions produced his own seed for sowing this spring, and 50 per cent had some for sale. In one county four carloads of No. 1 seed oats were sold and they had four hundred bushels of Registered seed of high quality. Due to this work and a fairly good crop in Quebec last year, very little seed was imported.

REGISTERED SEED

The majority of the farmers who took part in the combined competitions are also members of the Canadian Seed Growers' Association. A large number applied for their grain to be registered, but a considerable quantity was not accepted on account of the impurities in the seed. The impurity which causes most trouble with oats at the present time is barley. Some 2,956 bushels, however, were registered, and over 50 per cent of the balance graded Extra No. 1 and No. 1. Of the quantity registered, over 2,000 bushels were cleaned and inspected at the Ste. Rosalie elevator. This is operated by a co-operative society which buys the grain on the condition that if it is not found suitable for registration after cleaning, the grower will be paid the market price for whatever grade it receives. The system has proven to be very satisfactory.

INSPECTION

In the course of the year 1,474 seed merchants, 2,787 feed merchants, and 175 fertilizer dealers and manufacturers were visited. Although a large number of seed merchants were visited, the time of the inspectors was spent mostly with those selling feeds and fertilizers. The latter have been accustomed to selling fertilizer at high prices, without any regard to its value from the farmer's standpoint. It will require very rigid inspection and considerable educational work with both the farmers and the dealers before satisfactory results are obtained. Quebec is still being made the dumping ground for certain inferior feeding stuffs, but fewer violations this year indicate that this practice has been considerably reduced.

FERTILIZER EXPERIMENTS

In order to help the farmers to find out the practical value of fertilizers, two experiments were started in co-operation with the Provincial Government. One of these experiments is being conducted with thirty farmers in Brompton-ville, Richmond county, and the other with the Dairy School at St-Hyacinthe. A part of their farm is being used for that work. The former would be better classified as a demonstration, aiming to show the farmers the kind, value and the best way to apply fertilizers with a proper crop rotation. Dr. F. T. Shutt, Dominion Chemist, supplied the formulæ most suitable for the different kinds of crops with which the demonstrations will be carried on. The latter is an experiment with three different kinds of basic slag, namely, English, Belgian and Canadian. This experiment may be considered as an endeavour to solve the problem of the relative values of the different kinds of basic slag sold in the province. It is proposed to conduct it for five years under a carefully planned rotation system. The basic slag used for this experiment was obtained free of charge from firms interested in this special work.

EDUCATIONAL WORK

All the inspectors were engaged at various times during the year in educational work. This was in the form of lectures at seed fairs, exhibitions, agricultural meetings, and of personal visits to the farmers in their respective districts. In Quebec, a large number of farmers still buy cheap seed and cheap feeding stuffs, which in the end are more expensive than many high priced products. On every occasion the attention of the farmers was drawn to that fact, and the inspectors find a constantly increasing demand for the better quality products. Articles were prepared by the inspection staff and published in the press of the province.

Eastern Ontario

This district comprises eastern and northern Ontario to lake Nipigon, also Wright and Pontiac counties in Quebec. The field work during the past year has been done by a district inspector, with headquarters at Ottawa, and three permanent and seasonal inspectors conveniently located in the district.

SEED PRODUCTION AND SUPPLY

The season of 1922 gave very variable crops in eastern Ontario. Clover meadows and fall wheat were seriously injured in some localities from bad winter conditions—hard freezing, lack of snow, and covering of ice. Feed oats used for seed gave poor germination in many cases, but the high weed seed content proved quite vital. The corn crop was retarded by the cold wet weather of early summer, but later made rapid improvement to a normal crop. Late sown oats suffered badly on the flat undrained lands, and rust struck severely in the St. Lawrence, Rideau, Nation and lower Ottawa valleys. However, the general condition of the cereal grain and other crops throughout the district was good, and particularly so in Central Ontario, which had large surpluses of fall wheat, oats, field and garden peas, red clover, alsike, sweet clover and alfalfa. The Bobcaygeon and each of several other districts had forty to fifty thousand dollars worth of red clover seed and a considerable offering of local alfalfa. Sweet clover is supplanting alfalfa for grazing in eastern Ontario. It is hardy, gives a luxuriant growth, and provides excellent pasture. A very large meadow acreage was seeded to make up for the failure of the new meadows in 1921, and promises well for 1923. Several lots of European orchard grass, wild white and Danish white clover seeds were placed in suitable localities with a view to the development of seed production centres for home requirements and export.

INSPECTION

Points requiring inspection received 1,850 visits; 1,534 warehouse inspections were made for seed, 1,957 for feed, and 5 for fertilizers. There were 147 suspected violations under the Seed Control Act, 28 under the Feeding Stuffs Act, and 2 under the Fertilizers Act. The more serious offences will be recommended for prosecution. Nine cases under the Seed Control Act were carried through successfully for the 1921-22 season, several of them being against farmers for selling seed contrary to grade. Feeding stuffs are generally of good quality according to the analyses. Shorts are in more demand than bran on account of pig feeding. Many farmers get their own grain chopped for feed. Bin inspections of seed oats competitions showed some very light weight grain, poor germination, noxious weed seeds, and high dockage from poor cleaning. Practically all the seed corn was offered as shelled corn in keeping with the corn-borer quarantine regulations. A few lots sold on the ear came from districts not under quarantine.

EDUCATIONAL WORK

Besides judging of the field crop competitions, assistance was given in judging grain and field roots at fall fairs and provincial exhibitions. The district inspector took charge of an educational exhibit at the Guelph and Ottawa Winter Fairs, and distributed copies of the various Acts and related literature. He led in the discussion on weeds at the annual meeting of the Ontario Experimental Union, and assisted in short courses on weeds and seeds at several points in the district.

Western Ontario

The Seed Branch maintains a district office and laboratory in the General Post Office building, Toronto. Inspection is carried on by a district inspector and six permanent and seasonal inspectors, supported by an office staff charged with the receiving, recording, grading and reporting of seed and feed samples.

SEED PRODUCTION AND SUPPLY

The season was very favourable to seed production, which is a very important industry in western Ontario. Alsike clover seed was a particularly good crop, but red clover was inferior to the 1921 crop in quantity, quality and colour. There was a large increase in the production of alfalfa seed, and special attention was given to multiplication of hardy strains. Some fields in Peel county have been growing alfalfa continuously for twenty years, and action has been taken toward registration of the seed crop. There was a strong demand for local grown seed, and a larger acreage of alfalfa will be seeded in 1923. Large quantities of Registered seed oats were required by agricultural societies taking part in seed crop competitions, but the supply was rather limited. The production of fibre flax seed for export has fallen off in Western Ontario.

INSPECTION

There were eighteen prosecutions under the Seed Control Act and six under the Feeding Stuffs Act on the 1921-22 trade season. Manufacturers and dealers in feeding stuffs generally desire to obey the law, but some require a severe warning or prosecution. Most of the brands of fertilizer which is largely manufactured in this district showed a satisfactory analysis or were very close to the line. Farmers prefer pure bran and shorts without mill run of screenings. During the year reported, 815 visits were made to points requiring inspection; 1,511 warehouse inspections were made for seed, 1,826 for feed, and 73 for fertilizers. There were 72 suspected violations of the Seed Control Act, 69 of the Feeding Stuffs Act, and 39 of the Fertilizers Act. Satisfactory explanations were given in most cases, but action will be taken on apparently wilful offences of a serious nature. The quantity of seed inspected and imported through customs totalled 11,370,224 pounds.

EDUCATIONAL WORK

The district inspector was president of the Guelph Provincial Winter Fair, and acted as judge at several of the larger fairs and exhibitions. Seed exhibits at the Royal Winter Fair were tested for purity at the Toronto laboratory to serve as a basis for judging. He attended the annual meeting of the Ontario Seed Growers' Association, and received numerous office visits from seed dealers, feed and fertilizer manufacturers and dealers, and from farmers.

Manitoba and Saskatchewan

This district extends eastward into Ontario as far as lake Nipigon. The district office and laboratory are located at 173 Portage Avenue East, Winnipeg. Seed inspectors are maintained as required at the Saskatoon and Moose Jaw interior terminal elevators, and six permanent and seasonal inspectors control the trade in seed, feed and fertilizers.

SEED PRODUCTION AND SUPPLY

Continued heavy rains and local floods set back the spring work in many districts and created an unusual demand for seed flax, barley and spring rye. On the whole the season was very favourable and the production of seed was plentiful except in some localities west of Saskatoon. Wild oats are contaminating the once noted seed oat district in north-eastern Saskatchewan, but large quantities of No. 1 seed were available from the new lands round Verigin and Kylemore. There was a considerable increase in the quantities of Registered and Extra No. 1 seed grain available, seed centres are being organized, and farmers are giving special attention to organization for marketing. Premiums of 6 cents to 10 cents per bushel over Fort William prices are obtained for oats that will grade seed. Growers in the Manitoba combined seed crop and cleaned seed competitions had from five hundred bushels to two carloads of Extra No. 1 seed oats offering at each farm, and obtained ready markets. Seed wheat was not in such good demand. Durum wheat is finding favour at Gladstone and Arden. Alfalfa is giving good results at Neepawa, where one grower had 90 tons of hay from 30 acres and a seed plot yielding 315 pounds per acre. Local grown brome and millet were offered in southern and central Saskatchewan, and fall and spring rye are becoming quite popular in those districts. Sweet clover is giving excellent results in northern Saskatchewan, and there is an increased acreage of sunflower for silage. Alsike seed was a bumper crop at Oxdrift and Dryden, but red clover was below average, the quality being lowered by immaturity. Seedsmen are taking a pride in securing their supplies locally. Supplies of the various grass and forage crop seeds were located for the Manitoba provincial authorities, and several thousand pounds were distributed from the live stock train which toured the province.

INSPECTION

Seed inspection, aside from oats and flax, showed an improvement in quality over 1921. Conditions at feed manufacturing plants are generally good, but some of the dealers have to be checked very closely. Fertilizer inspection is practically nil in this district. Six prosecutions were conducted under the Seed Control Act and six under the Feeding Stuffs Act on the 1921-22 trade season. During 1922-23, 756 visits were made to points requiring inspection; 2,003 warehouse inspections were made for seed, 1,216 for feed, and 5 for fertilizers. There were 98 suspected seed violations, 83 feed, and 2 fertilizer. Prosecutions are now pending. Inspection of seed gain was light at the interior terminal elevators because of good crop conditions. Incoming inspections totalled only 17,417 bushels for wheat and oats, and outgoing 40,477 bushels for wheat, oats and barley. Imports inspected through customs totalled 1,847,292 pounds of seed.

Special attention was given to elevators handling grain screenings, and samples were taken from all domestic shipments at the head of the lakes. These were forwarded to the laboratory for final analysis and suspicious cases were immediately reported to district inspectors at points of delivery. Careful observation was made on the feeding of screenings to sheep. The elevator

run was generally valuable, but there was some difficulty with refuse screenings. Sick animals are usually brought round by substituting with a considerable ration of hay, but the mortality was rather high in some flocks. Standard Recleaned Screenings purchased under inspection certificate were in good demand throughout the season.

EDUCATIONAL WORK

The district inspector judged at seed fairs and exhibitions, and addressed several meetings of seed growers particularly on problems of marketing. He attended meetings of the Saskatchewan Seed Board, the Western Society of Agronomists, and the Manitoba Soils Products Exhibition. There was a large increase in the number of office interviews.

Alberta and British Columbia

The organization in this district includes an inspection office and a seed and feed laboratory at Calgary. The trade is controlled by a district inspector, two permanent inspectors, one in each province, and three seasonal inspectors. The permanent inspector in British Columbia is also a seed production specialist.

SEED PRODUCTION AND SUPPLY

Seed growers in Alberta again brought great credit to themselves and to Canada by winning a large number of prizes at the Chicago International Hay and Grain Show in December, 1922. In wheat, Alberta secured seven prizes out of twenty-five awards, and in oats, six prizes out of the first ten, and thirteen in all. J. W. Biglands, a grower in the Lacombe district, took first prize in Region No. 1, as well as grand sweepstakes for the best sample of oats on exhibition, along with which goes the special trophy of the Chicago Board of Trade. This makes the third consecutive year Alberta growers have captured this trophy. Another grower, N. Taitinger, Claresholm, took first prize for his sample of two-rowed barley, which was considered the finest ever shown at Chicago. J. W. Lucas, of Cayley, secured first prize for rye. In alfalfa, Alberta growers took six prizes out of fifteen, the highest being second, and in peas, four out of five prizes. In all, thirty-six prizes for seed came to Alberta. It is interesting to note that most of the grains shown were grown by members of the Canadian Seed Growers' Association.

Largely due to the publicity secured, a ready market has been available for all surplus seed produced.

The district inspector took charge of the bin inspections for the Canadian Seed Growers' Association in the registering of seed in this district.

Last year some eight thousand pounds of Grimm alfalfa seed were registered, as compared with twenty-eight thousand this year. Two years ago, when the first registrations were made on this seed, two thousand four hundred pounds were registered. From this amount to twenty-eight thousand five hundred pounds in two years shows the interest taken in the production of alfalfa seed. The amount of alfalfa seed suitable for registration is only a portion of the total production, which for Alberta this past year is estimated at 135,000 and for British Columbia 30,000 pounds. There will be a further large increase in the acreage sown to alfalfa this season.

Thirteen growers were supplied with wild white clover seed imported from England by the Seed Commissioner. Reports to date indicate that it is very suitable to our irrigation districts. A quantity of timothy seed secured from the Central Experimental Farm, Ottawa, was distributed to competent growers.

Owing to drought throughout the timothy districts, this seed crop was the lightest in years, amounting to approximately 85,000 pounds. Interest in vegetable seed production has been greatly stimulated in British Columbia, and the growers' organization is now in a prosperous financial position. Approximately ten thousand pounds of field root and vegetable seeds were produced by the growers through their organization, and some twenty-five thousand pounds were marketed, including old stock on hand from previous years.

Owing to many alarming statements being made with regard to a possible seed shortage in Alberta and parts of British Columbia, full and accurate reports were obtained covering each district and giving yields for 1922, with averages over a number of past years for comparison. Information was also secured covering financial conditions of farmers in each district. This investigation warranted us in stating that there was ample seed for all local requirements and that there was no necessity of the Seed Purchasing Commission securing any quantity of seed for distribution.

SCREENINGS

There was a shortage in the coarse grain crops which resulted in a shortage of feed throughout the district. Large quantities of elevator and mill run grain screenings were used, unground. Over fifteen million pounds of such material were shipped back into the district from Port Arthur and Fort William. Owing to these screenings containing such a heavy percentage of weed seeds, the Provincial Department of Agriculture and growers interested in keeping in check widespread distribution of weed seeds protested against allowing their use. An investigation was made with a view to ascertaining the exact quality of all screenings used and the effect of feeding them to live stock. Very useful and reliable data were secured, giving the varying percentages of injurious weed seeds in the screenings used, and their effect when fed in different quantities to cattle, sheep and hogs.

INSPECTION

During the year, inspectors in this district made 876 visits to 397 towns and cities, inspecting 1,202 seed firms, 1,125 feed, and 114 fertilizers firms, including both manufacturers and dealers. Seven prosecutions were conducted under the Seed Control Act and two under the Feeding Stuffs Act, one of which was for three violations.

Considerable difficulty has been met with in the inspection of fertilizers, but as soon as old stocks have been sold and are off the market, it is felt that purchasers will benefit to a great degree in being able to purchase a better quality of fertilizer.

Inspections indicate that seed dealers and feed dealers and manufacturers are acquiring a better understanding of the regulations of the Acts and are giving more attention to their observance.

EDUCATIONAL WORK

The district inspector again acted as chairman of the Alberta Seed Board, which has the responsibility of promoting interest in seed production, advising the best varieties for growers to produce, drafting rules and regulations which are adopted by the Provincial Government, controlling the holding of local and provincial seed fairs and standing field crop and cleaned seed competitions. This board was largely responsible for interesting the Provincial Department of Agriculture in the securing and equipping of a provincial seed cleaning plant,

located at Edmonton. It is the intention, if this proves successful, to open another one in the southern part of the province. During the season approximately fifteen thousand bushels of Registered seed were cleaned and sold for the growers through the provincial seed cleaning plant. This Branch provided an inspector for the work.

A conference of seed growers was held in conjunction with the provincial seed exhibition, and the Alberta Seed Growers' Association was formed with a view to encouraging the production of high quality seed throughout the province. The district inspector acted as judge at this exhibition and gave an address on seed control legislation. He also judged at a number of local seed fairs held at seed growing centres, and discussed seed production suitable for such districts. He reports that the growers are manifesting greater interest, and expects that in the coming year a considerable number of new seed growing centres will be established with complete organization.

Seed Purchasing Commission

The staff nucleus of the Seed Purchasing Commission has been maintained throughout the year. Adjustments of accounts for freighting, storing and cleaning of seed grain of the previous season have entailed a great deal of work. The crop conditions of 1922 in the prairie provinces, however, were so generally satisfactory that there was deemed to be no real occasion for the commission to enter into the merchandising of seed grain for seeding during the ensuing spring.

The commission was established in 1916 on the general understanding that inasmuch as the inspection of commercial grain and seed grain and the control of public grain elevators were services provided by the Federal Government, this Government was in the best position to assemble, store, clean and distribute seed grain to meet the requirements of provincial and municipal governing bodies, which were in a position to determine who should receive credit, if any, and how much, and to assume the responsibility for the issue of credit.

It would seem that the dispensing of credit by governing bodies in general has not been attended with satisfactory results from the viewpoint of the interested public. The announcement by the Government of Alberta that the extending of credit for seed grain was to be discontinued by that province brought into question the advisability of further continuing the Seed Purchasing Commission. It was found necessary to continue the office of the commission until March 31, 1923, because of the large number of inquiries that were being received from persons who had in former years purchased supplies of seed grain from the commission.

During the period following October, 1916, the commission distributed more than ten million bushels of seed grain in the prairie provinces, and more than one million bushels in the eastern provinces. In addition, the commission filled substantial orders for seed grain for export during the period of the war. Approximately $16,350,000 was advanced to the commission during this period for merchandising purposes, all of which was promptly refunded to the Receiver General, together with a surplus of more than $250,000, which is sufficient to pay all operating expenses and a fair rate of interest on the money employed. The total office operating costs amounted to less than one cent per bushel of the seed grain distributed.

During this period, the commission paid over half a million dollars for the service of storage and cleaning of seed grain, which was all done in the Canadian Government interior elevators at Calgary, Moose Jaw and Saskatoon.

It is pleasant to record that in providing this difficult service, which was clearly very much needed during the period of the war, satisfactory relations have at all times existed as between the officers of my Department and the Seed Purchasing Commission, and there is much evidence to show that the service has been highly beneficial to the interested public.

ENTOMOLOGICAL BRANCH

The officers attached to the several divisions of the Entomological Branch, as well as the officers in charge of the various field laboratories, have been actively engaged during the year in investigating the life-histories and habits of important insect pests and disseminating useful information resulting in the saving, throughout Canada, of hundreds of thousands of dollars' worth of crops, etc. The established divisions of the Branch are: Division of Field Crop and Garden Insects; Division of Forest Insects; Division of Foreign Pests Suppression, and the Division of Systematic Entomology. In addition to these divisions, special technical officers are engaged in the study of fruit insects, stored product insects, live stock insects, natural control of insects, etc.

Under the direction of the Dominion Entomologist, the Regulations under the Destructive Insect and Pest Act have been administered in so far as they refer to insect pests.

By Order in Council passed on April 21, 1922, the Destructive Insect and Pest Act Advisory Board was constituted for the purpose of administering the Regulations under the Destructive Insect and Pest Act, as well as to advise the Minister of any changes to the regulations that may be considered necessary. The officers of the Department appointed as members of the board and the office they now hold are as follows: Mr. Arthur Gibson, Dominion Entomologist and head of the Entomological Branch, Chairman; Mr. E. S. Archibald, Director, Experimental Farms Branch, Vice-Chairman; Dr. J. H. Grisdale, Deputy Minister; Mr. H. T. Gussow, Dominion Botanist, Experimental Farms Branch; and Mr. L. S. McLaine, Chief, Division of Foreign Pests Suppression, Entomological Branch, Secretary.

The following amendments to the regulations were passed during the year April 1, 1922, to March 31, 1923:—

By Ministerial Order passed on September 5, 1922, Quarantine No. 2 (Domestic), was amended by adding thirty townships in southern Ontario which were found to be infested with the European corn borer.

By Ministerial Order passed on September 27, 1922, Quarantine No. 2 (Domestic), was again amended by adding fifteen additional townships in southern Ontario, which were found to be infested with the European corn borer.

By Order in Council passed on February 26, 1923, the regulations dealing with the importation of nursery stock were amended by prohibiting the importation of plants with soil about the roots from Asia, on account of the Japanese beetle and other soil-infesting insects.

By Order in Council passed on February 26, 1923, Quarantine No. 1 (Domestic), dealing with the apple sucker outbreak in Nova Scotia was brought up to date. The ministerial orders and supplements thereto were rescinded and superseded by the Order in Council on the date stated.

By Order in Council passed on February 26, 1923, Quarantine No. 2 (Domestic), dealing with the European corn borer outbreak in southern Ontario was revised. The Order in Council passed on February 10, 1922, and the ministerial orders passed as supplements thereto were rescinded and superseded by the revised Order in Council on the date stated.

Division of Field Crop and Garden Insects

Grasshoppers responsible for important injury in the Prairie Provinces and in British Columbia were given special study in 1922. It is with satisfaction that our officers report that the condition on the prairies, with regard to these destructive insects, is considerably relieved, but in British Columbia the very serious outbreak which occurred in 1922 will doubtless occur again in 1923. Investigations with grasshoppers have taken the form, mainly of studies in poisoned bait formulae and the identification of parasitic and predaceous insects, the latter study being of considerable importance in determining the status of the pest.

Intensive studies in the control of the pale western cutworm have also been undertaken and considerable success has been obtained in the field control of this insect, which is the major pest of wheat in southern portions of Alberta and Saskatchewan.

Our officers report that the western wheat stem sawfly is increasing its area of distribution. At present it covers half the wheat growing area of the province of Manitoba; its distribution in Saskatchewan is very wide and there has been a material increase in Alberta. Judging from evidence in hand it is probable that the insect has caused, and is now causing, more loss than is occasioned through grasshoppers. Studies in the control of this insect are being continued. It has been found that the cutting of the wheat stems by the larvæ of this insect is accomplished when the stems are mature and is not dependent upon the stage of maturity of the larvæ. This is a very important point which will be further studied during 1923, as it will enable farmers to avoid material loss by cutting their crop slightly on the green side.

Studies of the European corn borer in Ontario are being continued. Much useful data on the control of this insect has already been obtained. In general, it may be stated that late planting of corn coupled with clean farming operations and careful ploughing will materially lessen loss to field corn. Unfortunately we have to report the spread of this insect to forty-five townships.

Investigations on potato insects in the Maritime Provinces, on the Hessian fly in Ontario and Manitoba, and alfalfa insects in Alberta, have been conducted by officers of this Division, which will enable our entomologists to advise farmers regarding the safeguarding of their crops.

Division of Forest Insects

The work of this division has included further investigations of spruce budworm and beetle injuries in the provinces of Ontario, Quebec and New Brunswick; damage by the eastern spruce bark-beetle in the Gaspe region of Quebec and in northern Saskatchewan, bark-beetle outbreaks in yellow pine, western white pine, lodgepole pine and Douglas fir in British Columbia, forest sample plot studies, various other forest insects, injuries, and outbreaks by shade tree insects.

The active spruce budworm outbreak in the Temiskaming district of Quebec and in eastern Ontario appeared to be decreasing in severity this season, but the injured balsam is dying very rapidly, more than fifty per cent of the balsam over the whole 5,000 square miles of forest included in this recent outbreak being already dead or dying. Studies in Quebec and New Brunswick, have in 1922. been concerned chiefly with determining the causes and rate of deterioration of the dying and dead timber and the degree to which it can still be salvaged. This investigation is of considerable practical importance and is to be continued and extended next season.

Further investigations of the destructive eastern spruce bark-beetle were conducted in the Gaspe peninsula and a survey made of similar injuries to valuable spruce in northern Saskatchewan. Successful control operations, recommended by our officers, have been carried out in some areas.

The control of the bark-beetle outbreaks in yellow pine in British Columbia has been continued with marked success by the Dominion and Provincial Forest Branches under the direction of our officers. The area under control was considerably extended.

The forest sample plot studies were continued according to previous plans, several additional plots being established in New Brunswick and Quebec.

Investigations of shade tree insects and the biology of various forest insects have been conducted as heretofore, particularly at the forest insect laboratory near Aylmer, Que. An important outbreak of forest tent caterpillars defoliating poplar shade trees and shelter belts caused much annoyance in the southern part of the Prairie Provinces. Spraying methods for control have been recommended by our officers.

Division of Foreign Pests Suppression

This division is concerned with the carrying out of the Regulations under the Destructive Insect and Pest Act in so far as insect pests are concerned. This work entails, first, the prevention of the introduction of further insect pests by the adequate inspection of plant products, particularly nursery stock, entering Canada from foreign countries; second, the combating and prevention of spread of newly imported and dangerous pests which when discovered are confined to a more or less restricted area; third, the maintenance of foreign and domestic quarantines; fourth, the examining of territory which may have become infested with new pests; and fifth, the inspection of plant products for export to foreign countries.

During the importation season 1921-22, a total of 2,197,625 plants classed as nursery stock entered Canada from Great Britain, United States, Holland, France, Belgium, Japan, Poland and Luxemburg. All these plants were examined by inspectors, and 128 shipments were found to be infested with foreign pests. In addition, the following shipments of nursery stock from the United States and Japan passed through the Dominion fumigation stations: 19 carloads, 412 cases, 647 bales, 356 boxes, and 780 parcels. The value of the plants, trees, shrubs, vines and florists' stock, but not including cut flowers, imported into Canada for the year ending March 31, 1922, was $811,919.

The brown-tail moth suppression work in Nova Scotia and New Brunswick was continued during the year. Up to March 31, 1923, 491 winter webs of this pest were found in the former province as compared with 979 found the previous year. No nests were found in New Brunswick.

The scouting for the European corn borer in southern Ontario carried on during the summer of 1922 showed that this insect had not spread over as much new territory as in the previous year. One hundred and sixty-two townships are now quarantined, covering 12,616 square miles. In accordance with the quarantine placed on Ontario by the United States Department of Agriculture, nine hundred and sixty-five inspection certificates for export shipments of oat straw, cut flowers, beets, beans, rhubarb, celery, spinach, etc., were issued. Five individuals were prosecuted and fined for infringing the domestic quarantine.

The apple sucker quarantine in Nova Scotia was maintained during the year, and additional territory found infested. The total area now infested covers 3,750 square miles, an increase of thirty-three per cent over the preceding year. Four hundred and forty-three permits and certificates for 66,429 plants were issued during the year.

A report having been received to the effect that the gipsy moth had possibly been brought into Ontario, a careful inspection was made of several nurseries in Ontario. Scouting was also carried on for this insect in the Eastern Townships of Quebec, as the gipsy moth has been found in Bloomfield, Vermont, approximately fifteen miles from the border.

Owing to the rapid increase in the amount of alfalfa grown in the Prairie Provinces and the danger of importing the alfalfa weevil, a serious pest of this crop, extensive scouting for this pest was carried on in southern Alberta during the summer of 1922. A total of 300 farms were visited and 6,680 acres of alfalfa examined. We are pleased to report that no specimens of the alfalfa weevil were found in the 317 collections of insects which were made.

Division of Systematic Entomology

Systematic studies of Canadian insects, based on the material in the Canadian National Collection, have been continued by the officers of this division. Particular attention has been paid to such important groups as the Ephemeridae (May-flies), the larvae of which are aquatic and very important as fish-fodder; the Asilidae (Robber-flies), predaceous on other insects; the Syrphidae (Hover-flies), destructive to plant lice; the Tortricidae (Leaf-rollers), frequently injurious to vegetation, etc.

As a result of these studies, not only has the material in the National Collection in these various groups been placed on a satisfactory classificatory basis, but numerous species, hitherto unreported from Canada, have been added to our faunal lists and over seventy-five species of insects new to science have been described. The addition of the type specimens of these new species to the Canadian National Collection has materially enhanced its value.

It may be noted in this connection that there has been a gratifying increase in the number of communications received from scientists in various institutions, notably in the United States, requesting information regarding the above-mentioned groups, sending material for determination by our officers, or asking the loan of material for study. In fact, it may definitely be stated that the Canadian National Collection of Insects is now generally recognized as one of the major North American collections. Its value to all classes of entomologists is increasing yearly, due to the careful taxonomic studies conducted by the officers of the Division.

During the year the field activities of the branch officers have resulted in the addition of over 15,000 specimens to the National Collection. Members of the staff of the Geological Survey, Department of Mines, have also from time to time sent in various lots of insects for determination and incorporation in the National Collection.

Additional steel cabinets and insect drawers have been purchased and the transferring of a further portion of the National Collection to these fire-proof receptacles has been accomplished.

Numerous determinations of insects, injurious and otherwise, have been made for institutions such as provincial museums, agricultural colleges, schools, etc. Individual collectors and entomologists have also availed themselves of the services of the divisional staff in the identification of insect material.

LIBRARY

The library of the Entomological Branch has been gradually built up through the purchase of numerous works on taxonomic entomology. Many of these are extremely rare and out of print and it has only been possible to secure these through dealers in second hand books as occasion offered. A good

collection of entomological works is the first essential to conducting satisfactory systematic work and as it now stands the Branch Library is in this respect second to none in Canada.

Insecticide Investigations

During the year 1922, excellent progress has been made in the development of cheap and more efficient insecticides. Improvements have been made in certain dust mixtures for dusting orchard trees as well as important developments in the fumigation of certain types of insects by means of nicotine vapour projected from dusting machines. During the year, the fourth successive large crop of apples was grown in the Annapolis Valley of Nova Scotia. This crop was of exceptional quality, being very clean and of high colour. This condition of affairs is due in no small way to the investigational and other work conducted by our insecticide entomologists.

Natural Control Investigations

In the province of Nova Scotia, the artificial spread of the parasitic fungous disease of the apple sucker, known as *Entomophora sphærosperma*, was very successful in 1922, and it is expected that this will result in a greatly increased crop in 1923, and a correspondingly larger revenue from each orchard in the district in which these investigations were conducted. Important progress has also been made in Nova Scotia in connection with the natural control of the green apple bug by a new species of a fungous parasite. This species has also been artificially introduced into orchards. The predaceous mite which was introduced into British Columbia a few years ago to control the oyster shell scale has spread during the year and become established in important fruit centres. Progress has also been made in studies of the larch case bearer, particularly with regard to its parasites and other natural control factors. Studies in connection with the spruce budworm, forest tent caterpillar and the larch sawfly have also been continued.

Fruit Insect Investigations

Officers of the Entomological Branch in certain of the field laboratories have been specially engaged in studying the life-history and control of important fruit insect pests. In the province of British Columbia efforts have been made to secure further information on the life-history and habits of the codling moth in the Okanagan district. The officer in charge of the Victoria, B.C., laboratory has developed certain improvements in the oil barriers which have been demonstrated for controlling the strawberry root weevil. The value of these barriers is being more and more appreciated by commercial growers. In the Niagara district of Ontario, a remarkable outbreak of the grape leaf hopper occurred in 1922. By means of meetings, timely articles and circular letters practically every grape grower in the district was informed as to the methods of combating this pest. As a result the growers in general were able to harvest a satisfactory crop. In the same province, a special officer was detailed to study the life-history and injury caused by the rose chafer with a view to establishing improved methods of control. In the province of Quebec, studies were continued on the apple maggot, plum curculio, and apple curculio. In the province of Nova Scotia, further information was obtained on the life-history and distribtuion of the apple sucker and the green apple bug.

Mosquito Investigations

At Banff, Alta., a mosquito laboratory was established during the year. The officer detailed for this work is a specialist in mosquito experiments and the results of his work conducted in the Rocky Mountains Park in 1922, have been much commented upon. This work, which has been undertaken in co-operation with the Dominion Parks Branch of the Department of the Interior, has indeed been very successful. All the engineering work was devised and directed by our officer, such as proper ditching, filling in of breeding places, etc. In 1922, the mosquito pest was reduced almost to a negligible quantity. The value of this work will be appreciated when one considers the time spent by tourists in such a resort when they find that it is free from these very annoying pests.

Greenhouse Insect Investigations

Several of our entomologists have during recent years devoted particular attention to important pests which cause serious damage to plants grown in greenhouses. As a result of these studies the Branch issued during the year an extensive bulletin entitled "Insects Affecting Greenhouse Plants", well illustrated, which has been supplied to florists and others interested throughout Canada. This bulletin has received the approval of many of our large growers.

Indian Orchard Work

As in other years, the Dominion Entomologist has supervised the work of the supervisor of Indian orchards in British Columbia, which officer is employed by the Department of Indian Affairs. During 1922, the officer in charge of this work visited the various Indian reservations in British Columbia in order to assist in connection with agricultural matters, particularly those relating to the protection of trees, etc., from injurious insects.

Advisory Board on Wild Life

During the year the Dominion Entomologist, as the representative of the Department of Agriculture on the Advisory Board on Wild Life Protection, has attended the meetings of the board. This board is an interdepartmental one, the function of which is to advise the various government departments in matters relating to wild life protection, as well as in advising provinces concerning wild life problems, which they refer to the board.

Field Laboratories

Annapolis Royal, N.S.—The entomologists attached to this laboratory have paid special attention to the development of spray and dust mixtures, particularly for use in the Annapolis Valley. The increase in the amount of spraying and dusting in this valley is due almost entirely to educational work and effective demonstrations conducted from this laboratory. Considerable extension work in demonstrating cheaper poison baits for insect pests has been undertaken in the provinces of Nova Scotia and New Brunswick. The development of cheaper dusts and improving machinery for distributing the same has resulted in a very large saving.

Fredericton, N.B.—Natural control studies of important insect pests have been continued at this laboratory. Special investigations relating to the apple

sucker, green apple bug and the spruce budworm, etc., have also been conducted in the province of New Brunswick. An important outbreak of the birch leaf skeletonizer occurred during the year. The fall webworm was also noticeably abundant in many sections, particularly along roadsides. Other insects which were especially complained of are the Halisidota tussock moth, salt marsh caterpillar, arbor-vitae leaf-miner, forest tent caterpillar, larch sawfly and larch case bearer.

Hemmingford, P.Q.—The insects which occupied the attention of the officer in charge of this laboratory were the apple maggot, which has caused considerable damage in apple orchards; the raspberry cane-borer, which in some sections destroyed over thirty per cent of the young raspberry shoots; cutworms, particularly complained of on the Isle of Montreal; the saddled prominent, which defoliated sugar maple trees in a strip about one mile wide by about three miles long; and the onion maggot which caused serious losses to onions in some sections. For the latter insect, favourable results were obtained from the use of the sodium arsenite poisoned bait remedy. Several important meetings were attended by the resident officer and timely articles on the control of important pests were published from time to time.

Vineland Station, Ont.—In the Niagara district an extensive outbreak of the grape leaf hopper occurred in 1922. In co-operation with the Niagara District Grape Growers' Association, a campaign against this insect was inaugurated. Meetings were addressed and timely articles published. Further studies were undertaken as a result of which the grape crop was practically saved from the ravages of this insect. Special work was directed by the officer in charge of this laboratory on the rose chafer, pear psylla, plum spider mite, currant sawfly, blackberry leaf miner, potato leaf hopper, etc. Continuing work started in 1921, spraying and dusting experiments were conducted in peach, apple, plum and cherry orchards.

Strathroy, Ont.—The officer in charge of this laboratory paid particular attention during the year to investigations relating to the clover root borer, which is an important pest of clover; the Hessian fly, which during recent years has caused important injury to wheat in western Ontario; the European corn borer; white grubs and other field crop insects. In addition to biological work conducted in this laboratory, the officer in charge has assisted considerably in the inspection of imported nursery stock received by florists and nurserymen in western Ontario.

Port Stanley, Ont.—The laboratory which was established at this point was continued during 1922. It was used as the headquarters for the European corn borer investigations and scouting work conducted in the province of Ontario. During the year several important delegations of farmers from western Ontario and localities in the United States visited the laboratory for the purposes of consultation and also to see fields infested by the corn borer.

Treesbank, Man.—The most important research work conducted during the year by the officer in charge of this laboratory related to the western wheat-stem sawfly, which has increased to an alarming extent in the province of Manitoba and also in sections of Saskatchewan and Alberta. Further experiments were also conducted in an endeavour to improve poisoned baits for grasshopper destruction. Studies were also begun in connection with the Hessian fly, an outbreak of which is expected in 1923. Among the insects which were reported as being prevalent in the province were the beet webworm, the cabbage worm, cucumber beetle, red turnip beetle, etc.

Saskatoon, Sask.—Investigations at this laboratory related to outbreaks of grasshoppers, beet webworm, cutworms, etc. In this province, as well as in Manitoba, close contact was again maintained with provincial organizations, particularly with regard to the grasshopper campaign. An outbreak of the spruce bark beetle was investigated in northern Saskatchewan.

Lethbridge, Alta.—The officer in charge of this laboratory paid special attention to the pale western cutworm, which is at present undoubtedly the major insect problem of the province. Cultural methods for preventing cutworm injury were conducted with good results in several districts. Grasshoppers were again abundant in the province, over 1,500 townships being infested. A very efficient campaign was launched by the Provincial Department of Agriculture and in this work our officer assisted. Studies of the alfalfa thrips and other insects which attack alfalfa were continued and a survey made to see if the alfalfa weevil had gained a foothold in southern Alberta. It is pleasing to state that this insect was not discovered by our officers.

Vernon, B.C., Agassiz, B.C., Victoria, B.C.—Studies made by the temporary officer in charge of the Vernon laboratory related particularly to the oyster shell scale, oblique banded leaf-roller, the fruit tree leaf roller and a species of thrips which occurs on apple trees. Progress was made in these studies.

At the Agassiz laboratory the officer in charge continued the life history studies and natural control of the satin moth, which has become established in coastal regions of British Columbia. Studies have also been undertaken of the crown borer and cane girdler of raspberries, the currant fruit-fly and the elm currant aphis.

At the Victoria laboratory the officer in charge has continued control experiments in connection with the strawberry root weevil, which work has been highly appreciated by commercial growers. Studies have also been undertaken in connection with the control of important holly insects, the poplar sawfly, etc.

Publications

The following publications have been issued from the Entomological Branch during the year:—

BULLETINS

No. 19.—The Natural Control of the Fall Webworm in Canada. By John D. Tothill.

No. 20.—The Morphology and Biology of a Canadian Cattle-Infesting Blackfly. By A. E. Cameron.

No. 21.—Insects Affecting Greenhouse Plants. By Arthur Gibson and W. A. Ross.

CIRCULARS

No. 2.—The Date on which it is safe to Reseed Fields in the Prairies after they have been Devastated by the Pale Western Cutworm. By H. L. Seamans and E. H. Strickland.

No. 4.—Field Crop Insects, Crop Rotation to Offset Injury. By H. F. Hudson.

No. 12.—How to Foretell Outbreaks of the Pale Western Cutworm in the Prairie Provinces. By H. L. Seamans.

PAMPHLETS

No. 5.—The Strawberry Root Weevil. By W. Downes.

No. 6.—The Western Wheat Stem Sawfly.—By Norman Criddle.

No. 14.—Directions for Collecting and Preserving Insects. By J. H. McDunnough.

No. 30.—The Hessian Fly in the Prairie Provinces. By Norman Criddle.

No. 31.—Aphids or Plant Lice. By W. A. Ross.

In addition to the above departmental publications the officers of the Branch have contributed articles in the *Agricultural Gazette of Canada* as well as in the entomological journals such as *The Canadian Entomologist*, transactions of various societies, etc. Many articles were also prepared by our entomologists for the agricultural press.

THE FRUIT BRANCH

The Department lost a valuable executive officer by the resignation of Mr. C. W. Baxter, who acted as Fruit Commissioner from November 1, 1918, until June 1, 1922, when he undertook the general managership of the Niagara Peninsula Growers, Limited. The work of the branch was carried on by Mr. George E. McIntosh, Fruit Transportation Specialist, as Acting Commissioner until September 1, 1922, when he was appointed Fruit Commissioner.

The Fruit Season, 1922

Following exceptionally favourable winter and spring conditions, most fruit plants, bushes and trees appeared to be in excellent condition and blossomed in a manner indicative of sufficient vigour to bear heavy crops. This condition was probably brought about by the conservation made possible the year previous when, due to severe spring frosts, which affected most varieties of fruits, extremely light crops were borne. Conditions continued favourable throughout the growing season with the result that a large crop of small fruits, a good crop of apples and a bumper crop of stone fruits was brought to maturity. The commercial apple crop of the Dominion was slightly less than that of 1921 or 3,838,852 barrels as compared with 4,046,813 barrels.

In British Columbia, the spring was very backward in all sections with snow on the ground in the Okanagan until the 8th of April and until nearly the middle of April in the Kootenays. The apple crop was early estimated at from 80 to 90 per cent of the 1921 crop, but the final result showed that approximately 3,000,000 boxes were shipped as compared with 3,172,449 boxes in 1921.

In Ontario, weather conditions were favourable to growth but also particularly favourable to the spread of fungous diseases on apples. The total commercial apple crop was 809,500 barrels, slightly less than the crop of 885,065 barrels in 1921 and very considerably less than the normal production.

In Quebec, the apple crop was 112,500 barrels as compared with 35,200 barrels in 1921 and 88,000 barrels in 1920. Owing to the fact that growth was not rapid throughout the season fungous diseases did not prove particularly injurious although considerable damage was caused by Railroad Worm which has now become a serious pest in this Province.

The apple crop in New Brunswick was 25,000 barrels as compared with 33,000 barrels in 1921.

In Nova Scotia, the early part of the season was dry and favourable for the setting and development of fruit. Commencing with July, however, and continuing until the middle of September the weather was very wet but, throughout the latter part of September and the month of October, the weather was most favourable for the apple harvest. The commercial crop totalled 1,891,852 barrels as compared with 2,036,065 barrels in 1921. This was the fourth successive heavy apple crop in the Province of Nova Scotia.

Although conditions in Great Britain continued unsettled and the buying power considerably less than normal, the export of apples from Canada was in excess of the exports of the previous season when a greater quantity was exported than for a number of years. The exports from the Province of Nova Scotia alone totalled 1,199,800 barrels.

The average wholesale prices both in Canada and on the export markets were considerably below those of the previous years. In the early part of the season the export markets were strong but, due undoubtedly to the very large shipments, they weakened considerably towards the end of the season and in numerous cases the returns received were not equal to the costs. On the Canadian markets the wholesale prices throughout the year were low, mostly due to the large shipments of inferior quality low grade stock.

The British Columbia shippers were most unfortunate in that the Jonathan variety, which comprises almost one-third of the total crop, developed a breakdown condition which necessitated very many rebates and consequent enormous losses.

The small fruit crop in British Columbia was slightly less than the crop of 1921. The strawberry plants suffered considerably from heaving and later the blossoms were badly damaged by early frosts. Raspberry canes suffered from winter freezing. Other small fruits came through the winter satisfactorily but the production was affected by the lack of moisture during the growing season.

Ontario produced a large crop of all small fruits with the exception of raspberries which suffered slightly from winter injury, and later severely from disease. It is estimated that fully 90 per cent of the total raspberry crop produced in Ontario was sold to the canning and jam factories. Red currants, black currants and gooseberries were an excellent crop.

A bumper crop of practically all varieties of cherries, plums, peaches and pears was harvested throughout Canada. The plum crop was particularly heavy averaging almost 300 per cent in excess of that of 1921. The peach crop in the Niagara District of Ontario was one of the heaviest on record and the fruit was of excellent quality.

Crop Reports

Following the usual practice of the Branch, six Crop Reports were issued throughout the growing season commencing with the Fruit and Vegetable Crop Report issued on June 1, and continuing each month until the special Potato Crop Report in November. The list of those from whom crop reports are requested was revised in the early spring and the result was that only those in whom absolute confidence could be placed were requested to submit information. Approximately 1,000 names were added to the Mailing List which now totals 9,200. From time to time throughout the season opportunity was taken of bringing to the attention of the fruit and vegetable growers of the Dominion through these Reports, various special items of interest such as new regulations, Imperial Fruit Show Regulations and matters affecting transportation.

Telegraphic Market Reports

During the past year 68 Telegraphic Market Reports were issued. These were printed once each week except during the heavy fruit marketing season when they were sent out twice weekly. These Reports contain the latest market quotations submitted to the Fruit Branch by telegraph, on all fruits and vegetables on the principal markets throughout Canada. In addition, when the apple export season opens the prices obtaining on the various markets upon which Canadian apples are sold in Great Britain are cabled by the Fruit Trade Commissioner. The rapidly increasing number of applications for these Reports indicates that this service is appreciated by the Fruit and Vegetable Trade.

Imperial Fruit Show

The second Imperial Fruit Show, very similar to the Imperial Fruit Show of 1921, was held at the Crystal Palace, London, England, from October 27 to November 4, 1922. The Canadian exhibits while slightly less in number than those of the previous year, were considerably superior in quality and attractiveness and elicited very favourable comments from the fruit trade and fruit trade journals in Great Britain.

The fruit from British Columbia and Ontario won high honours in the Overseas Section, while Nova Scotia carried off First Prize in the Dessert Classes and Quebec was awarded Second Prize in the British Empire Section.

In addition to the excellence of the fruit, a feature in the whole Canadian Exhibit was the efficiency shown in the grading and packing. These factors brought many high praises from other exhibitors and from visitors to the show, convincing all who saw it, of the superiority of the Canadian product in all that constitutes commercial value.

The Commercial Exhibit from Ontario, the only one from Canada, elicited much favourable comment and was undoubtedly of very great value in advertising the Ontario Fruit on the British markets.

The Fruit Commissioner, at the request of the management of the show acted as Secretary for Canada, distributing full information to all possible Exhibitors and receiving and transmitting the entries and fees.

Canadian National Exhibition

In the building assigned to the Department at the Canadian National Exhibition, August 28 to September 9, 1922, the Fruit Branch made an exhibit which was designed with the primary object of drawing the attention of consumers to the desirability of using Canadian grown fruit for all purposes. The exhibit elicited many enquiries and the advisability of extending work of this kind during the coming year is under consideration.

The Canadian Horticultural Council

In compliance with the wish of the horticultural and allied industries of Canada as unanimously expressed through their representatives at the Dominion Fruit Conference held in Ottawa, February 22, 23 and 24, 1922, the organization of the Canadian Horticultural Council was completed. The representatives were called together by the Fruit Branch on May 17, 1922, when the following permanent officers were elected:—

President, Col. H. L. Roberts, Grimsby, Ont.

First vice-president, F. W. Bishop, Paradise, N.S.

Second vice-president, R. R. Scott, Winnipeg, Man.

Secretary, L. F. Burrows, Ottawa, Ont.

Directors: Jas. Wagstaffe, Hamilton, Ont., W. E. Groves, Hamilton, Ont., W. H. Stewart, Aylmer, Que.

The council has the entire support of the fruit and other horticultural and allied industries in Canada and is of utmost value in that it is now in a position to express, with the least possible delay, the unanimous opinion of these industries as a whole on the numerous questions of vital importance which continually arise.

Meetings and Special Instruction Work

In submitting to Parliament the amendments to the Fruit Marks Act (Inspection and Sale Act, Part IX) recommended by the Sixth Dominion Fruit Conference which met in Ottawa in February, 1922, it was deemed advisable to consolidate the old Act and the proposed amendments. The legislation was therefore submitted as the Fruit Act and, while conforming in the main to the original Act, contains the changes suggested by the Conference, including new grade designations and definitions for apples, crabapples and pears when packed in boxes, some slight changes in the definitions covering barrelled apples and the standardizing of other fruit packages.

Inspection Service

Some increase was made in the inspection staff, the number of inspectors in 1922 being 71 as compared with 63 in 1921, the increase being principally due to the extension of territory to cover vegetable production and the administration of the Root Vegetables Act. The work was carried on under the same general policy as during the previous year, the greater part of the inspection being done in the orchards and packing houses, enabling the inspectors not only to examine the fruit, as it is packed but to give practical demonstrations in approved methods of picking, packing, grading and shipping for the various markets.

Meetings and Special Instruction Work

In co-operation with the various Provincial Departments of Agriculture, meetings were arranged in the producing districts when members of the staff, during the off-season for active inspection work, were able to assist in packing demonstrations and to give practical advice on various phases of the fruit and vegetable industry. The inspectors also assisted at short courses in box and barrel packing and in many cases acted as judges at exhibitions. In addition our fruit packing and orchard demonstrator devotes practically all his time to giving instruction in box and barrel packing.

This educational work is much appreciated by growers, packers and shippers and the value of the inspection staff to the industry has been demonstrated by the greatly increased demand during the past year for special instruction work and for special examinations of particular lots, both at shipping point and destination. Lower market values for practically all commodities coming under the jurisdiction of the Fruit Branch created a tendency on the part of consignees

to refuse cars on the slightest pretext and our inspectors' impartial reports have proved of great value in securing satisfactory settlements.

During the summer of 1922, the Canadian Fruit Trade Commissioner, Mr. J. Forsyth Smith, spent some time in Canada and meetings were arranged under the auspices of the Fruit Branch in the commercial fruit districts of British Columbia, Ontario and the Maritime Provinces when growers and exporters had an opportunity of meeting Mr. Smith and discussing with him many phases of the export trade and the possibilities of the British and Continental markets for Canadian fruits.

The special service rendered the blueberry shippers and dealers during the past few years was continued, an officer being again stationed in the Lake St. John District during the active shipping season. Arrangements are being made to extend this service during the coming season.

The inspectors in the districts affected again co-operated with the Entomological Branch by reporting any violations of the European corn borer quarantine that came to their attention.

The basket, box and barrel factories in the various provinces were visited systematically in order to ensure an output in accordance with the regulations governing standard packages. Some 250 special reports on inspections of packages were made and in all cases of non-compliance with the regulations, the violation was taken up personally with the offender and in one case prosecution followed.

Prosecutions under the Fruit Marks Act (Inspection and Sale Act, Part IX) were fewer during the past season than for a number of years but all violations were carefully investigated by the district inspector for the district in which the offender lived.

FRUIT STATISTICS

The following table shows the number of lots of various kinds of fruits inspected and the number of packages inspected during the year ending March 31, 1923:—

Variety	Number of lots inspected	Number packages in lots inspected	Number packages inspected
Apples.....Barrels	11,747	1,308,942	61,532
Apples.....Boxes	5,777	2,426,888	84,761
Apples.....Baskets	716	108,131	6,715
Pears.....Packages	1,052	189,498	10,007
Peaches.....Packages	2,499	483,989	25,904
Plums.....Packages	1,343	343,110	15,875
Tomatoes.....Packages	1,079	189,166	9,175
Small fruits.....Packages	4,772	606,042	91,911
Grapes.....Baskets	514	357,035	11,168
	29,499	6,012,801	317,048

The Root Vegetables Act

This legislation, resulting from general recommendations made by the trade for a number of years and in accordance with resolutions passed by representatives of the industry called in conference by the Department in 1920, became effective June 28th, 1922 and provides for the grading of potatoes and onions and certain regulations with respect to the sale of root vegetables. The enforce-

ment of the Act during the year under review has been largely along educational lines, every attempt being made to familiarize the public with its provisions. In adition to press publicity, over 40,000 copies of the Act (in English and French) were distributed; also some 25,000 window cards which have been handed by our inspectors to the retail trade with a personal explanation of the provisions of the Act with respect to the grading and marking of potatoes and onions and sale by weight. In practically all cases the retailers have expressed their appreciation of the value of the new regulations.

With the exception of five temporary men, who were employed for special work in commercial potato districts, the enforcement of the Root Vegetables Act during the past year has been carried on by the regular fruit inspection staff. Substantial progress has been made and the trade appreciates the advantages resulting from the standardization which is taking place as the result of the regulations. In addition to a large number of informal inspections made during the first few months after the passing of the Act, 1,717 inspections of potatoes, onions and other vegetables were reported. In 476 cases, violations of the Act were shown, 385 of these being concerned with failure to place the proper marks on the bags, barrels or bulk car lots; only in 91 cases was the violation with respect to improper grading.

Transportation

Growers and shippers of fruits and vegetables throughout the Dominion look to our Transportation Division for guidance in the various problems involved in the transportation of their products, all more or less highly perishable and in danger of damage or lowered grading by exposure to extreme temperatures, incorrect loading methods or careless handling. Shippers freely request opinion as to the fairness of rates, accommodation or condition of carriage, and for reference our transportation specialist has the advantage of a full file of tariffs covering freight and express rates on fruits and vegetables moving throughout Canada and internationally with the United States, also of direct and cordial contact by correspondence or interview with the principal officers of the transportation companies. Inquiries and representations forwarded by shippers are impartially weighed and where necessary become subjects of correspondence or interview with traffic or operating department officials concerned on behalf of the correspondents or the industry generally. The result of these negotiations, or of adverse opinion supported by technical or tariff reference, frequently avoids hearings before the Board of Railway Commissioners or litigation.

Through the past winter the tenor of most correspondence and interviews pertaining to rates, and of numerous resolutions from meetings of organized growers, has been that the basis of rates applying on fresh fruits and vegetables generally is higher than the industry can be expected to bear. Since 1920 various economic and domestic conditions have joined with abnormal transportation costs in returning to the producer of perishable agricultural products an unusually low proportion of the consumer's dollar, and the producer seeks relief through reduced transportation costs. It is appreciated that the carriers are bearing also an excessive burden in post-war operating costs, including an abnormal scale of wages, fuel and material costs, etc., also statistics show their narrow margin of operating profit. Nevertheless continued losses to the industry will compel economy in orchard maintenance and renewal, resulting inevitably in reduced tonnage for movement by the carriers, and it is hoped the carriers will exercise interested vision in this direction.

During the year important results accomplished on behalf of the industry in negotiations with the carriers include the following:—

Storage-in-transit privileges at principal centres for potatoes grown in Western Canada, as relief from the menace of frost damage, which also gives growers access to all winter markets; storage-in-transit privileges at principal centres for British Columbia apples for reshipment east of Port Arthur, to United States, and to Atlantic ports for export; storage-in-transit privileges at Grimsby pre-cooling plant for apples.

The Canadian National Express and Dominion Express Companies consented to create a joint carload and L.C.L. rates for fruits and vegetables from British Columbia producing stations on the Dominion Express Company to Canadian National exclusive destinations in the Prairie Provinces, affording wider and very satisfactory distributing privileges for British Columbia fruit.

Arrangements for superheating all refrigerator cars in fruit and vegetable service, to combat the codling moth.

Additional destinations and routings for carload fruit movement from British Columbia.

Reductions obtained in carload freight rate on apples from British Columbia to Atlantic ports for export, and in ocean rate to the United Kingdom.

Reduction of thirty per cent in icing charges for express fruit carload movement when ice supplied from regular icing stations of the Canadian National or Canadian Pacific Railways.

Numerous local adjustments of rates were accomplished where discrimination was established in transportation costs to natural markets. In all such cases the object has been to remove obstacles to free movement and wider distribution of our fruits and vegetables from producer to consumer, increasing volume of traffic more often than decreasing gross earnings of the carriers and especially seeking rate revisions that would assist Canadian producers to meet most favourably foreign competition.

During the winter months, several meetings of fruit growers were addressed on transportation topics and discussion invited on local problems, local grievances produced and explained or negotiated with interested officials of the carriers.

Canadian railways have been very active during the past winter in rebuilding refrigerator cars and in new construction. In view of the comparative excellence of refrigerator car supply for handling last season's abnormal crop of deciduous fruits, though the railways of the United States operating into Canada were hindered by labour troubles from supplying their usual proportion; Canadian railways are confident that even better service can be maintained during the coming season. Certain improvements in icing facilities have been effected which will also expedite this traffic.

PUBLICATIONS BRANCH

Distribution of Publications

A list is submitted of the publications issued by the Department during the fiscal year ended March 31, 1923, and of the number of each received and distributed by the Publications Branch. The publications comprise those that became available for distribution during the year, including reprints. As it is the practice of Branches originating publications to reserve a supply for their own use, the figures given below do not necessarily indicate either the total edition or the complete distribution.

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PUBLICATIONS RECEIVED AND DISTRIBUTED BY THE PUBLICATIONS BRANCH, FISCAL YEAR, 1922

Annual Reports

Titles, etc.	Received	Distributed
Agricultural Instruction Act, 1921–22	5,000	3,472
Canadian Seed Growers' Association	1,000	771
Minister of Agriculture, 1922	5,000	2,655
The Canadian record of performance for pure-bred dairy cattle, Report No. 14	4,000	2,251
The Canadian record of performance for pure-bred poultry, Section "A", 1921–22; Report No. 3	2,760	2,277
Veterinary Director General, 1921	2,350	2,158
Experimental Farms Branch—		
Director, Dominion Experimental Farms	14,275	9,396
Dominion Chemist	9,591	8,576
Dominion Field Husbandman	19,000	10,607
Dominion Animal Husbandman	11,990	2,986
Dominion Horticulturist	12,300	6,385
Dominion Cerealist	5,000	2,664
Division of Botany	5,775	5,395
Dominion Apiarist	7,000	6,216
Dominion Agrostologist	6,600	4,000
Dominion Poultry Husbandman	14,225	10,742
Tobacco Division	9,130	4,434
Division of Economic Fibre Production	500	500
Division of Illustration Stations	9,160	7,370
Experimental Farms Interim Reports—		
Experimental Station, Charlottetown, P.E.I	5,000	2,872
" " Kentville, N.S	6,480	2,500
" Farm. Nappan, N.S	6,500	3,983
" Station, Fredericton, N.B	7,500	1,622
" " Ste. Anne de la Pocatiere, Que	2,000	1,507
" " Cap Rouge, Que	3,800	2,833
" " Lennoxville, Que	8,500	2,959
" Kapuskasing, Ont. and La Ferme, Que	5,000	4,977
" " Morden, Man	5,000	4,895
" Farm, Brandon, Man	5,800	4,700
" " Indian Head, Sask	5,000	1,036
" Station, Rosthern, Sask	9,150	8,788
" " Scott, Sask	18,200	18,020
" " Lethbridge, Alta	11,128	9,823
" " Lacombe, Alta	10,992	10,872
" " Summerland, B.C	10,031	9,606
" " Invermere, B.C	6,000	3,165
" Farm, Agassiz, B.C	5,600	5,314
" Station, Sidney, B.C	4,850	4,100
" Sub-stations, Beaverlodge, Alta.; Fort Vermilion, Alta; Grouard, Alta; Fort Smith, N.W.T.; Fort Resolution, N.W.T.; Swede Creek, Yukon; Salmon Arm, B.C	5,350	3,260

Bulletins, Pamphlets, Circulars, etc.

Experimental Farms Branch—		
Results of experiments at Fort Vermilion, Alta., by Robt. Jones, Bull. 6	6,000	3,072
Fertilizers for field crops, by F. T. Shutt and B. L. Emslie, Bull. 8	10,000	5,118
New varieties and selections of grain (Originated on the Dominion Experimental Farms), by Chas. E. Saunders, Bull. 11	8,000	4,962
Pigeons, by Geo. Robertson and W. W. Lee, Bull. 15	6,050	2,690
Root and storage cellars, by A. V. Nicholson, Pamp. 10	18,000	2,760
Best varieties of grain, Pamp. 11	6,200	6,200
How to caponize, by Geo. Robertson and W. W. Lee, Pamp. 12	8,000	3,435
Finishing steers for market, N. W. Saskatchewan, by M. J. Tinline, Pamp.17	19,100	17,270
Winter steer feeding in Manitoba, by W. C. McKillican, Pamp. 18	11,000	10,120
The winter finishing of steers in Western Quebec, by J. A. McClary, Pamp. 19	7,000	6,332
The winter feeding of beef cattle in Ontario, by G. W. Muir and S. J. Chagnon Pamp. 21	27,650	26,213
The winter finishing of steers in Western Nova Scotia, by W. W. Baird, Pamp. 20	10,000	6,625
"Seasonable Hints"	.....	774,910
Wintering bees in Canada, by C. B. Gooderham, Pamp. 22	10,000	775

PUBLICATIONS RECEIVED AND DISTRIBUTED BY THE PUBLICATIONS BRANCH, FISCAL YEAR, 1922

BULLETINS, PAMPHLETS, CIRCULARS, ETC—*Concluded*

Titles, etc.	Received	Distributed
Experimental Farms Branch—Concluded.		
Steer feeding experiments in Prince Edward Island, by J. A. Clark, Pamp. 23	5,000	2,700
Is cow testing worth while? by A. H. White, Pamp. 24	14,800	4,520
In the trough of the wave, by W. D. Albright, Pamp. 26	50	48
Meilleur cheese, by S. J. Chagnon and Jos. Meilleur, Pamp. 27	5,000	3,245
Mosaic and leaf curl of the cultivated red raspberry, by J. F. Hockey, Cir. 1.	200	120
Dairy Branch.—		
The testing of milk, cream and dairy by-products by means of the Babcock Test (Reprint) by J. F. Singleton, Bull. 14, N.S	4,537	447
Small cold storages (Reprint) by J. A. Ruddick and J. Burgess, Bull. 16.	1,800	230
Simple methods for the storage of ice (Reprint) by J. A. Ruddick and Jos. Burgess, Pamp. 2	8,000	7,500
Why and how to use cheese, by H. G. Campbell, Pamp. 7	60,000	25,847
Keeping dairy herd records, Pamp. 13	13,000	11,825
The cooling of milk for cheese making (Reprint), by J. A. Ruddick and Geo. H. Barr, Pamp. 28	4,900	267
Why and how to use milk, by H. G. Campbell	101,200	96,860
Why and how to use skim milk, by Helen G. Campbell, Cir. 5	102,000	21,950
Why and how to use cream, by Helen G. Campbell, Cir. 6	101,000	25,135
Why and how to use cottage cheese, by Helen G. Campbell, Cir. 7	70,000	22,205
Why and how to use buttermilk, by Helen G. Campbell, Cir. 8	50,000	22,965
The branding and marking of cheese and butter boxes, by J. A. Ruddick, Cir. 9	4,000	3,886
Live Stock Branch.—		
Swine husbandry in Canada (Reprint), by J. B. Spencer, Bull. 10	23,120	10,758
Dressing and cutting lamb carcasses, by A. A. McMillan and W. J. Howard, Pamp. 8	9,900	8,355
Selection of lamb cuts, directions for cooking, by A. A. McMillan, Pamp. 9.	12,000	9,925
Dehorn your commercial cattle, cater to higher market prices, by P. E. Light and G. B. Rothwell, Pamp. 15	83,000	82,403
Manitoba improved flocks, by A. C. McCulloch, Pamp. 25	3,000	2,523
Seed Branch.—		
Cleaning seed, by G. H. Clark, Pamp. 4	20,000	1,190
Oat hulls and their use in feeding stuffs, by A. Eastham and V. L. Baker, Cir. 11	20,000	1,305
Fruit Branch.—		
List of wholesale dealers in fruit and vegetables in Canada, Bull. 9	10,000	4,170
Health of Animals Branch.—		
Fox ranching in Canada, by J. A. Allen and J. E. Smith, Bull. 12	9,900	8,854
Bovine tuberculosis, questions and answers, by F. Torrance, Pamp. 16	10,000	8,071
How to prevent goitre in new born lambs, calves and other animals, hairless pigs, by F. Torrance, Cir. 3	10,000	9,917
Entomological Branch.—		
The natural control of the fall webworm, by J. D. Tothill, Bulletin 3	1,740	429
The morphology and biology of a cattle-infesting black fly, by A. E. Cameron, Bull. 5	1,600	437
Insects affecting green house plants, by Arthur Gibson and E. A. Ross, Bull. 7	14,135	3,638
The strawberry root weevil, by W. Downes, Pamp. 5	4,117	3,792
The western wheat stem sawfly and its control, by N. Criddle, Pamp. 6.	6,000	3,757
Directions for collecting and preserving insects, by J. H. McDunnough, Pamp. 14	2,400	700
The Hessian fly in the Prairie Provinces, by N. Criddle, Pamp. 30	3,500	1,379
Aphids or plant lice, by W. A. Ross, Pamp. 31	5,600	3,080
Field crop insects, crop rotation to offset injury, by H. F. Hudson, Cir. 2.	3,500	2,865
The date on which it is safe to re-seed fields in the Prairie Provinces after they have been devastated by the pale western cutworm, by H. L. Seamans and E. H. Strickland, Cir. 4	2,000	1,083
Publications Branch.—		
List of publications, 1922	40,000	38,000
List of publications, 1923	30,000	5,805
The Agricultural Gazette of Canada	.....	8,316

SESSIONAL PAPER No. 16

PUBLICATIONS RECEIVED AND DISTRIBUTED BY THE PUBLICATIONS BRANCH, FISCAL YEAR, 1922

Acts, Orders and Regulations

Titles, etc.	Received	Distributed
No. 1—Boys' cattle breeding clubs	24	12
" 2—European Corn-borer quarantine	75	19
" 3—The Root Vegetables Act	5,000	4,282
" 4—Fruit and fruit packages	1,000	250
" 5—European Corn-borer quarantine No. 2 (Domestic) 2nd revision	51	.....
" 6—The Dairy Produce Act	4,000	2,865
Regulations respecting the grading of hogs	150	.....
Grading and marking of eggs	1,000	180
Animal Contagious Diseases Act	49	.....
Oleomargarine Act	49	49
Live Stock and Live Stock Products Act	100	35
Fertilizers Act	4,500	3,453

Mailing Lists

General List—On March 31, 1922, the general mailing list comprised 189,754 English and 43,254 French names; total 233,008. On the corresponding date in 1923, it comprised 212,968 English and 45,974 French names; total 258,942. The net gain for the year was 25,934 names.

	Number of Names	
	English	French
Special List.—		
Officials, Federal and Provincial	472	193
Libraries	305	3
Newspapers	921	71
Members of Parliament and Senators	246	78
Members of Provincial Legislatures	448	106
Exchanges, British and Foreign, Consuls, and Miscellaneous	88	80
Totals	2,480	531
Branch Lists—		
Live Stock (11)	13,119	50
Dairy (3)	4,464	3,052
Seed (15)	5,932	1,791
Entomological (8)	1,764	16
Fruit (3)	6,944	.....
International Institute of Agriculture (9)	997	197
Totals	33,220	5,106
Agricultural Gazette of Canada.—		
Agricultural Colleges	112	31
Dominion Government Officials	44	6
Members of Parliament	175	55
Senators	71	23
Federal Department of Agriculture Officials	306	20
Members of Provincial Parliaments	448	106
Provincial Departments of Education (including teachers of agriculture)	3,082	837
Provincial Departments of Agriculture Officials	211	69
Agricultural Representatives	89	67
Agricultural Societies and Associations	102	3
Newspapers and Farm Journals	941	71
Public Libraries	305	3
Consuls	27	11
Foreign Exchanges, etc	246	75
Unclassified	157	20
Paid Subscribers	217	118
United States Official List	268	.....
Totals	6,801	1,515

Except in a few special cases, the publications of the Department are sent free on request. *Seasonable Hints*, a leaflet issued by the Experimental Farms Branch every four months, is despatched to all whose names appear on the General List. This is accompanied by a supplementary List of Publications. Those who desire to obtain any of the publications listed therein mark the slip and return it to this Branch.

The following table shows the gain made in the number of names on the General List during the year:—

	English	French	Total
March, 1922	189,754	43,254	233,008
July, 1922	202,218	44,337	246,555
November, 1922	207,617	45,050	252,667
March, 1923	212,968	45,974	258,942

Gain in year—25,934 names.

The Special List comprises newspapers, members of parliament, officials, libraries, consuls, exchanges, etc. To this list, all publications are despatched, as issued.

The Branch Lists comprise the names of selected individuals and firms who are specially concerned in publications of that Branch. The publications of a Branch are sent to the Branch's list, on instructions to that effect.

The Agricultural Gazette of Canada is not intended for general free distribution. It is sent without charge to official workers, to qualified agricultural teachers, to members of parliament, libraries, the press, immigration and trade agents in Canada and to agricultural institutions, libraries, journals, etc., in other parts of the Empire and foreign countries.

ADDRESSING AND REVISION

The foregoing lists are addressed from embossed plates by automatic machinery, and the lists are constantly under revision.

The principal sources from which additions are made to the General Mailing List are as follows: applications for publication; direct requests; Extension and Publicity Division, Experimental Farms Branch; Soldier Settlement Board; responses to advertisements; revised lists from Members of Parliament; Grain Growers' locals; cheese and butter factory patrons. During the year under review, mailing list application cards were sent to teachers in rural schools for distribution to pupils. By this means parents were advised of the free distribution of Departmental publications.

DISTRIBUTION

The number of publications despatched during the year in response to requests was 887,630, being an increase of 45,836 over the year previous. Including the publications and other documents sent to lists, the total number despatched was 2,041,871, *Seasonable Hints* (774,910) and multigraphed or printed circulars being taken into account.

The number of envelopes addressed from lists by automatic machinery was 1,567,582, and the number addressed by hand to supply direct requests was 126,670.

To maintain the supply of publications, a report is made to each Branch every month as to the number of copies on hand of publications that are nearing exhaustion.

DUPLICATING AND MAILING

Duplicating work is performed for several Branches. The output of the duplicating machines was as follows:—

	1921-22	1922-23
Circulars, form letters, regulations, etc.,—pages	100,846	128,932
Press articles—copies	35,888	33,966
Entomological News Letter—Pages	7,176	9,406
Totals	143,910	172,304

The number of circulars printed or multigraphed, despatched during the year was 817,478, as compared with 608,070 in the year previous. These included the Dairy News Letter (monthly) and the Daily Market Report (weekly, April to December) for the Dairy and Cold Storage Branch; the Egg Market Report (weekly) for the Live Stock Branch; and the Entomological News Letter (monthly) for the Entomological Branch; the Fruit and Vegetable Crop Report (June to October) and the Potato Crop Report (December) for the Fruit Branch. The circulars enumerated, with the exception of the Entomological Branch, are duplicated or printed by the originating Branches.

PRESS ARTICLES

Press articles, prepared or edited by the Publications Branch, to the number of 578, were distributed to the various sections of the press, compared with 484 in 1921-22. These articles chiefly comprise notices of publications, and their object is to stimulate demand. In addition, as occasion arises, news items, articles advising the public of new legislation, regulatory measures, policies, insect and plant disease outbreaks, and digests of addresses, etc., are prepared and despatched.

The distribution was as follows:—

	Number
Agricultural journals	194
Weekly newspapers	303
Daily newspapers	26
French press	51

The following figures show the number of articles in their relationship to the various Branches:—

	Number
Experimental Farms Branch	233
Dairy and Cold Storage Branch	84
Entomological Branch	34
Live Stock Branch	76
Seed Branch	32
Fruit Branch	28
Health of Animals Branch	37
Publications Branch	22
Miscellaneous	32
Total	578

THE INTERNATIONAL INSTITUTE BRANCH

The meeting of the Sixth General Assembly of the International Institute of Agriculture was held in Rome from the 8th to the 16th of May, 1922. It was attended by representatives from fifty-one different countries. The Canadian representatives were Dr. A. T. Charron and Mr. W. A. Wilson.

The economies effected by the resolutions passed concerning the reorganization of the work of the Institute will enable certain developments on that work to be undertaken, such as the more frequent issue of special reports or monographs on subjects of general interest, the establishment of an improved system of bibliography, and the development of the statistical service by the more extended use of the telegraph in the collection and distribution of information on crop areas, forecasts and yields, as well as other urgent information.

Among the resolutions agreed to by the General Assembly may be mentioned: the importance of agricultural book-keeping and "costings"; an inquiry into the prevention of the olive fly; collection of information as to milk recording; the desirability of centralization at the Institute of a complete record of the work of various phytopathological institutes; the development of agricultural meteorology; an inquiry as to the supply of artificial manures and the republication of a monograph on this subject which has been for some time out of print; and the collection of information as to the losses caused to agriculture by insect and fungous pests.

The Institute, in common with the League of Nations and the International Labour Office, upon invitation, sent to the Genoa Economic Conference of the Allied and other Powers a delegation of experts with the object of furnishing the conference with any information relating to agriculture which might be required. The following recommendations of the conference show that the value and international position of the Institute in agricultural affairs was appreciated:—

> "Agriculture being from the economic and social point of view an essential factor in the reconstruction of Europe, it is desirable that the States should encourage in every way the development of agricultural production. It is further desirable that the States should give special attention to the labours of the International Institute of Agriculture and that, in development of the practice of holding international agricultural congresses, the agricultural representatives of the various countries concerned, both of the Government and of the industry, should meet in international conference, to agree upon the measures to be recommended to their respective Governments."

In accordance with the recommendations made by the General Assembly, the Institute has made radical changes in the form and publication of its three regular bulletins. Beginning with the January, 1923, issue the three sections of the *International Crop Report*, hitherto dealing respectively with agricultural production and live stock, with imports, exports and cereal stocks, and with prices, are condensed into a single monthly publication. Considerable innovations have been effected, more especially as regards price and trade figures. The price tables now include index numbers for the principal quotations, taking as 100 the average weekly figures of 1913, the last complete pre-war year. The price fluctuations for the various products on sundry markets are thus shown with greater clearness, so that it is not difficult to draw interesting comparisons as to period and locality. There are also tables giving prices and ocean freight rates reduced to cents on the basis of American weights and

the day's rates of exchange. The section relating to production includes the latest reports on crop prospects and crop yields in the different countries. The trade section comprises world's totals of imports and exports of different products and the best available information as to the supplies that are likely to be available in exporting countries and the probable requirements of importing countries. This section is therefore of direct and immediate value to the grain trade of the world by helping producers and distributors to form an accurate estimate of probable supply and demand. The report will also comprise a few brief articles, from time to time summarizing any noteworthy conclusions arising from the available statistical material.

From 1923 onwards the *International Review of the Science and Practice of Agriculture,* hitherto published as a monthly, will be published quarterly. The aim of the Review is to continue to keep agriculturists informed in regard to progress in the science and technique of farming, agricultural industries and live stock improvement, plant diseases and methods for their control. More space will in the future be given to original articles. The most important questions of the moment will be dealt with by leading specialists in the various countries. In order to render the work of the Institute still more effective a special, carefully co-ordinated series of articles will elucidate the principal agricultural problems of international importance. A new section will hereafter be included consisting of current notices relative to agricultural movements, legislative and administrative measures, agricultural institutes, congresses, meetings, exhibitions, fairs, etc., of international interest. This section is of importance as it is compiled from international sources, because the Institute is the only centre which receives the agricultural publications of the entire world and has also at its disposal special correspondents or bureaus in the various countries.

The *International Review of Agricultural Economics,* beginning with this year, is also transformed from a monthly into a quarterly review. It will continue to deal with agricultural co-operation, agricultural insurance, credit, the economic and social conditions of the agricultural classes, land systems, etc. Greater variety and general interest will be given to the articles by having recourse to outside contributors.

During the year the eleventh volume of the *International Year Book of Agricultural Legislation* was published. It contains the more important legislation on agriculture enacted in the different countries in 1921. The legislation of 1921 is chiefly concerned with the grave post-war economic, social and technical problems affecting agriculture. The social question is to the fore, and its importance is evidenced by a whole series of measures on land tenure, farm leases, social insurances and credit.

The International Institute Branch of this Department as usual furnished the Institute at Rome with the information concerning agriculture in Canada necessary in its work. Cablegrams giving the condition and forecasted yields of crops were regularly sent, as well as the statistics of imports and exports. Articles and monographs for the two Reviews and for use in the different special publications of the Institute were prepared.

The International Reviews and the Crop Report were distributed to selected lists of officials and agronomists throughout Canada. Summaries of those articles in the two Reviews which were of special interest to Canadians were made and published in the *Agricultural Gazette of Canada.*

The cabled foreign crop reports received from the Institute were immediately made available to the newspapers of Canada through the medium of

"The Canadian Press," and a large number of correspondents were furnished with statistical information on the world's crops and live stock, trade in agricultural products and prices. Several articles on the world's food supply and demand, with special reference to wheat, were published in the *Agricultural Gazette,* as well as an article on the world's live stock, giving details of the numbers of live stock in the different countries compared with pre-war numbers.

The number of requests for information on agriculture in Canada and in other countries is rapidly increasing and a great deal of such information was sent to correspondents throughout the country. Many foreign Government offices were also provided with data concerning Canadian agriculture. A comprehensive monograph on ocean freight rates was prepared for the Special Committee of the House of Commons Investigating Agricultural Conditions.

STATISTICAL REPORT OF THE LIBRARY

—	Borrowers			Books		
	1920-21	1921-22	1922-23	1920-21	1921-22	1922-23
Department of Agriculture, Ottawa	80	101	122	752	1,093	1,487
Ottawa (exclusive of Department of Agriculture	115	139	163	1,009	1,266	1,004
Ontario, exclusive of Ottawa	67	92	100	330	587	571
British Columbia	29	45	44	111	273	290
Alberta	16	27	29	65	197	142
Saskatchewan	16	46	40	121	243	330
Manitoba	17	47	34	58	281	249
Quebec	50	104	98	222	527	538
Prince Edward Island	6	12	10	21	64	114
New Brunswick	9	24	20	32	133	100
Nova Scotia	7	19	15	24	112	155
United States	3	5	6	9	40	49
Total	415	661	681	2,754	4,816	5,029

(These figures do not include use of books in the library).

	1920–21	1921-22	1922-23
Bound volumes received	1,345	1,393	1,455
Total bound volumes in library	8,978	10,371	11,826
Periodicals (pieces) received	12,561	12,717	15,297
Pamphlets received	10,692	10,483	9,587
L. C. cards received	8,346	6,190	5,368
Number of cards in catalogue	.....	.....	231,000 (approximately)

Respectfully submitted,

W. R. MOTHERWELL,
Minister of Agriculture.

REPORT OF THE DEPARTMENT

OF

NATIONAL DEFENCE

CANADA

FOR THE

FISCAL YEAR ENDING MARCH

1923

(MILITIA SERVICE)

PRINTED BY ORDER OF PARLIAMENT

H.Q. 650-5-273.
200—10-23.

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the report of the Department of National Defence (Militia Service) for the fiscal year ending March 31, 1923.

Respectfully submitted,

E. M. MACDONALD,
Minister of National Defence.

DEPARTMENT OF NATIONAL DEFENCE,
OTTAWA, November 15, 1923.

OTTAWA, November 12, 1923.

The Honourable the Minister,
Department of National Defence,
Ottawa.

SIR,—I have the honour to submit for your consideration, to be laid on the Table of the House, this the Annual Report of the Department of National Defence (Militia Service), for the fiscal year, 1922-23.

I have the honour to be, sir,

Your obedient servant,

G. J. DESBARATS,
Acting Deputy Minister.

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REPORT OF THE

DEPARTMENT OF NATIONAL DEFENCE, CANADA

(PART II. MILITIA SERVICE)

FOR THE FISCAL YEAR ENDING MARCH 31, 1923

REPORT OF THE CHIEF OF STAFF FOR THE YEAR ENDING MARCH 31, 1923

(1) Military Policy and Organization for Defence

In the 1922 Session of Parliament an Act was passed constituting a "Department of National Defence" by the amalgamation of the Department of Militia and Defence, the Department of the Naval Service and the Air Board under one minister. The Act came into effect by Order in Council on January 1, 1923, and simultaneously the Militia Council and the Air Board were dissolved. The amalgamation aims at better and unified control of the Defence Services, closer co-operation between Land, Water and Air Forces and greater economy in their administration.

The reorganization has proceeded slowly and has not yet been completed. The most important task still to be effected is the assembly of the Defence Council and the commencement of its regular meetings. Of secondary importance only to the Defence Council is the authorization of the Departmental Defence Committee. The old Inter-Departmental Defence Committee which consisted of the heads of the Militia, Naval, Air and Police services and which used to hold frequent and regular meetings to co-ordinate arrangements for defence, no longer exists, and until both the Defence Council and the Departmental Defence Committee are properly functioning the work of the department will not be efficiently performed and the full advantages of the amalgamation of the several departments in the Department of Defence will not be realized.

Consequent on the reorganization the Chief of the General Staff's appointment, which pertained especially to the Militia, has been changed to that of Chief of Staff and he has become the chief adviser of the minister on matters of defence. He is also charged with the co-ordination of the work of the different branches of the Staff.

The appointment of Inspector General has been abolished with effect from April 1, 1922, and the control of inspectional work transferred to the Chief of Staff. The annual inspections of units are largely carried out by general officers and Colonels Commandant in command of districts under the orders of the Chief of Staff, but also by the Chief of Staff himself, the Adjutant-General and the Quartermaster-General when opportunity offers.

Chiefly for financial reasons, as a temporary expedient the office of Master General of the Ordnance has been suspended with effect from April 1, 1922, and the duties divided between the General Staff and the Quartermaster-General's Branch of the Staff.

Reports of the several branches and Directorates of Defence Headquarters are included herein. These go into matters affecting them in considerable detail but it is desired here to comment briefly upon some of the main features.

The strength of the Permanent Force on March 31, 1923, is 3,475. It is considered that the minimum strength should be 4,000. No lower figure will permit of units performing their instructional work and keeping up their efficiency, and at the same time provide garrisons for defended ports and allow the troops to carry out their routine garrison and barrack duties. Over and above their functions as Instructional Corps to the non-permanent Active Militia, Permanent Force units are liable to be called upon by the civil authorities to maintain order in strike areas. This duty—which is naturally repugnant to the instincts of a soldier but has nevertheless to be cheerfully borne—necessitates a larger Permanent Force than at present exists if the regular functions of the corps are also to be maintained. During the year under review the small existing Permanent Force was strained to the uttermost in providing sufficient numbers to meet demands for troops for strike duty and the call coming, as it did, in the middle of the training season, the instructional work was badly disorganized and the Militia suffered generally.

It continues to be a matter of regret that for financial reasons the training period of the Non-Permanent Active Militia has again had to be restricted to nine days and to a limited establishment. This period is not sufficiently long to permit of adequate training, though the keenness of all ranks has enabled the utmost possible to be made of it. But with a limited training establishment which is of necessity below the full peace establishment, it is not possible to give to all Militia men even this nine days' instruction. It is hoped that more funds will be available in future years so that the period of training may be extended and be opened up to the full available strength of militia units.

Lack of funds has unfortunately not permitted of the purchase of tanks and no training in that necessary branch of warfare has therefore been possible. For the same reason no equipment is available for training in Chemical Warfare (use of gas) either offensive or defensive. While the Washington Treaty debars the use of noxious gases as between the signatories thereto no such restriction applies to other nations, and in future wars, in which such other nations are engaged, chemical means of crippling the opposing forces are certain to be employed.

It is satisfactory to report that it has been possible to resume the Militia Staff Course after its suspension due to the war. The lectures connected with the theoretical portion of this, the most advanced course of instruction for Non-Permanent Active Militia Officers, were well attended at the different centres where they were delivered during the winter and a good number of candidates sat for the subsequent examination.

Other points in the report of the Training and Staff Duties Directorate which may be noted as of special interest are the training of Artillery specialists and the Instructional Courses at Schools of Instruction for Officers and N.C.O.'s. It is regrettable that owing to restricted funds the attendance at Royal Schools of Instruction was not so good as might have been wished. This deficiency in attendance was offset by the numbers attending Provisional Schools at local centres, but the benefits to be derived from Provisional Schools can never be of equal value to the course of training at the permanent Royal Schools of Instruction.

The reduction of $100,000 in the Cadet Vote has unfortunately resulted in the cancellation of all Cadet Camps. Nevertheless some satisfactory features connected with this important branch are to be noted. Approval has been given for the purchase of 2,000 .22 Martini Rifles and delivery is about to be made.

They will be a great boon to the Cadets and it is hoped that gradually the whole Cadet Force will be re-armed with them. The regulation Militia Ross or Lee-Enfield rifle is too heavy for many of the younger boys and authority has been given to local authorities to exempt from arm drill those Cadets whose physical development would render it unwise for them to carry rifles.

The detachments of the Boys' Naval Brigade have now practically been incorporated in the Cadet Service and are permitted to benefit by the per capita allowance for Military Cadets. The boys carry out a portion of the training laid down for Military Cadets; the remainder of their training is devoted to specialization in their naval work.

The policy which has now been laid down for the Cadet Service is to concentrate on bringing existing Cadet Corps to a higher state of efficiency rather than on still further increasing the number of units. The syllabus of training has been modified in certain respects and it now approximates more closely to that of the Boy Scouts organization. More attention than formerly is being given to such subjects as—

Physical Training.
First Aid.
Signalling.
Scouting.
Organized Games.
Lectures on Citizenship.

The new syllabus by means of the training imparted and the course of lectures laid down aims at improving the physique of the boys and inspiring them to lead clean, honourable lives and thereby to make good and useful citizens, proud of their country, versed in its great traditions and anxious to promote its welfare.

Although no special efforts are being made to increase the number of our Cadets, it is gratifying to observe that the total enrolled has risen by 8,000 from 101,000 on March 31, 1922, to 109,000 on March 31, 1923. No work of the Department of National Defence is more fruitful in future good for the nation than that devoted to the development of the Cadet Services.

The work of the Signal Services presents some features of special interest. The Signal Corps, small in number but efficient in its duties, has kept up with the rapid developments of wireless telephony. During the summer of 1922 some quite notable experimental work was carried out with old equipment by the wireless officer from aeroplane to aeroplane and between aeroplane and ground station in the vicinity of High River, Alberta. The value of the forestry patrols maintained by the Royal Canadian Air Service has been greatly increased by this development of wireless. As stated in the detailed report of the Signal Service, " one of the largest forest fires detected in Alberta last year was reported by radio-telephony from the air at a distance of 190 miles from the air station from which the plane had set out on its patrol."

Arrangements have been completed for the establishment of a chain of wireless stations up the MacKenzie valley manned by personnel of the Royal Canadian Corps of Signals, which will place points as distant as Dawson City and the Mayo Mining Camp in telegraphic communication with other parts of Canada. A small increase in the establishment of the corps has been approved for this purpose.

In connection with the work of the Historical Section of the General Staff, the History of the Canadian Medical Services in the Great War has been written by Sir Andrew MacPhail, based on material compiled in the Section. This, the first volume of the Official History of the Canadian Forces, 1914-19, will probably be issued from the press shortly.

In connection with the Military Survey Division which now comes under the Military Operations and Intelligence Directorate, the most interesting development has been the establishment of the Board of Topographical Surveys and Mapping composed of representatives from the Department of the Interior, the Department of Mines and the Department of National Defence. This co-operation between the three departments will allow of mutual arrangement of programmes of work and will obviate much overlapping, which was inevitable when each department operated independently of the other in planning and carrying out its surveys and mapping.

The distinction "Royal" has been conferred by His Majesty the King upon the Canadian Air Force, which is now known officially as "The Royal Canadian Air Force."

Details of the work of the Force appear elsewhere in this report, but the change in its organization and functions may be noted here. From a dual organization, divided into a military and civil side, each working largely independent of the other, the Force has been reorganized into a single military unit with four instructional centres. The policy followed is to keep the organization as closely as possible on the same lines as the "Royal Air Force" with regulations based on those of that service.

In the establishment of these four main centres (Dartmouth, N.S.; Borden, Ont.; Winnipeg, Man.; and Vancouver, B.C.) on a military basis the foundation has been laid for an Air Service which will be a credit to Canada in future years. The change in status from a civilian to a military organization does not interfere with the carrying out by the Force of duties of a civil character, and its activities in forest patrols, aerial survey and other operations on behalf of different Dominion and Provincial Government departments are being expanded rather than curtailed. It is the fortunate privilege of the Royal Canadian Air Force to be able to use its personnel and equipment to develop and serve the country and at the same time afford useful experience to pilots and observers.

An important step towards improving the efficiency of the Royal Canadian Air Force has been taken by the placing of orders for eight new flying boats of the latest pattern best calculated for the work required in Canada. Six of these are being built in Canada, and it is hoped that this may be the beginning of a new industry in this country. This purchase of new machines is a welcome step in the right direction, but if this service is to retain its efficiency it will be necessary to spend a considerable sum each year in re-equipping it with modern equipment. The existing equipment consists of aircraft, etc., presented by the British authorities; all of it dates back to the period of the war and much of it to an early date in the war. Aircraft deteriorates rapidly and there is scarcely any of the material which is not now obsolete and unreliable. In the Air Service, almost above any other service, it is essential that the equipment should be up to date and that its reliability should be beyond suspicion if loss of life due to defective material is to be avoided.

The Adjutant-General's report details fully all changes in organization made during the year under review. It is a matter of great regret that owing to the reduction in the appropriation of the Militia, No. 4 Company, Royal Canadian Garrison Artillery, and the Royal Canadian Machine Gun Brigade have had to be disbanded and are now no longer maintained as active units. This reduction of the Permanent Force seriously restricts its usefulness, as already mentioned.

The authorization of the Canadian Railway Corps makes provision for a very necessary branch in any future military operations, should such ever unhappily occur. It is true that the organization exists practically only on

paper and that for the present no more than the posting of officers can be carried out, but the fact that an organization based on an approved establishment is in being, with officers appointed and mobilization store tables worked out, is a considerable step towards improving our preparations for defence. Hurried improvization on war occurring may be fatal to success and plans must be prepared in advance. The work of the personnel of a Railway Corps in war will follow the lines of their work in peace and military training is therefore not so essential in such a unit as in a purely military formation.

(2) Military Operations and Intelligence

Operations

Further attention has been given to the work referred to in the annual report of 1921-22.

Mobilization

Further progress has been made in the General Staff's arrangements for mobilization.

Intelligence

Considering the paucity of funds and the limited staff, very good progress has been made in the collection and collation of Military Intelligence.

Organization and Liaison

This Directorate has been able to furnish information on various questions to other Directorates of the Department of National Defence. It has been invariably consulted in questions of military policy. It has established liaison with other departments of the Government.

General

The Director and Assistant Director have lectured in various places, on various subjects, during the year.

The Assistant Director has given a good deal of time to perusal of Annual Inspection Reports of Units and made comments thereon for information of the Chief of Staff, and other branches of the department.

The officers of this Directorate have served on various committees, Courts of Inquiry and Boards of Officers.

Departmental Library

During the year the Libraries of the Department of Militia, the Air Board and Naval Services, have been consolidated into the Library of the Department of National Defence. As each of these libraries had formerly a different system of cataloguing it was necessary to re-catalogue the books on a uniform system.

One thousand one hundred and thirty-five volumes were received from the Air Board and approximately 1,000 for the Naval Services.

The Library of congress classification was chosen as the most modern and most suitable for a military library. The work of recataloguing commenced in January and by the end of the fiscal year 1,579 volumes had been reclassified.

A new dictionary card index has been begun.

Monthly lists of addenda which includes all old material reclassified, were isssued. These will eventually be compiled into a dictionary catalogue.

Press clippings of interest, to Military, Naval, and Air Force Officers were circulated daily.

More than 100 periodicals were received, circulated and filed. During the year 93 new volumes were ordered, of which number 81 were received.

Military Survey Division

During the year the Military Survey Division was transferred back to the General Staff, its logical place, and came under this Directorate.

Immediate steps were taken to seek the co-operation of the Department of the Interior.

During the year the Board of Topographic Surveys and Mapping with representatives from the Department of Mines, the Department of the Interior and Department of National Defence commenced to function.

The representatives of the department are,—

Colonel S. H. Osler, C.M.G., D.S.O.,
Assistant Director of Engineer Services.
Major J. B. Cochrane,
Assistant Director of Military Surveys.

A rotary offset press, long required by the Survey Division, was ordered and received at the end of the fiscal year.

A course of Instruction in Surveying was carried out from February 1, 1922, to November 1, 1922, eight other ranks from various units of the Permanent Force attending.

The Director of Military Operations and Intelligence, the Assistant Director of Military Surveys and other Officers of the Surveys, together with representatives of the Topographical Surveys of the Department of the Interior, visited the survey parties during the year.

Field Work.

Control.—Horizontal and vertical control was carried out during the last week of April and the month of May in the Ottawa sheet for the revision—one hundred and nineteen miles of chain traverse, one hundred and sixteen miles of stadia traverse and one hundred and seventy-three miles of level lines being completed. This control is in addition to that of former years, and was considered necessary in order to bring the accuracy of the Ottawa sheet up to the standard of the survey work being carried out at the present time. The control party then proceeded to Quebec, where their work was confined to the control of the Warwick, D'Israeli, Armstrong and Ste. Evariste sheets, which was completed.

In addition to the above about fifty miles of transit and level control of a secondary nature was carried out in the wooded area of the Lotbiniere and Megantic sheets.

During November a party of seven was employed for five days at Petawawa Camp in fixing the artillery ranging points erected during the summer.

The many advantages of motor transport for the control work were again made evident during this season.

The total control for the season:—

Chain transit traverse..	304 miles
Stadia traverse..	605 "
Levelling..	959 "

Topography.—Topography was carried out in Cape Breton and Quebec, about seventy square miles having been completed in the Mira sheet, Cape Breton, by two topographers. This work was completed by the end of June, these two men then proceeding to Quebec. In Quebec topography of the Lyster, Arthabaska and Woburn sheets was completed, and a portion of the Scottstown sheet.

In the examination of the field sheets in the Arthabaska District, some inaccuracies were discovered. It will be necessary, accordingly, to revise the inaccurate sheets early next season.

Total topography completed:—

Mira sheets, Cape Breton	69	sq. miles
Lyster Sheets, Quebec	360	" "
Arthabaska Sheet, Quebec	455	" "
Woburn Sheet, Quebec	107	" "
Scottstown Sheet, Quebec	210	" "
Total	1,201	" "

The present condition of the field and draughting work is as follows:—

Districts fully controlled ready for topographers:—

Ontario, 7.—Grand Bend, St. Marys, Stratford, Alliston, Barrie, Beaverton and Ottawa.

Quebec, 5.—Warwick, D'Israeli, Ste. Evariste, Armstrong, St. Sylvestre.

Districts fully surveyed ready for draughting:—

Quebec, 4.—La Patrie, Malvina, Woburn, Lyster.

Cape Breton.--Five sheets in the vicinity of Sydney.

Office Work.

Draughting.—Work in the hands of the draughtsmen and engraver:—

Six sheets.—Three Rivers, Yamaska, Becancours, Aston, La Patrie, Drummond one-half inch.

Printing.—The following new maps and diagrams were printed:—

Standard 1-inch Sheets, St. Malachie, Halifax, Musquodoboit	2,172
Brome ½-inch	867
Manoeuvre and Camp Maps: Petawawa, N.E. and S.E. Camp Hughes, 4 Sheets, Brampton Enlargement, Total	2,637
Five Confidential Maps and Diagrams	1,165
Forty-three Maps and Diagrams for instructional purposes	8,299
Reprints of thirteen 1-inch Sheets	8,495
Total Maps and Diagrams	23,635
Lantern slides for lecture purposes	2,710

Maps and Diagrams Issued.—

1-inch and ½-inch Sheets free to various Government departments	7,688
1-inch and ½ inch Sheets sold to public	3,800
Special Maps and Diagrams for instructional use	9,100
Total Maps and Diagrams issued	20,588

(3) Military Training and Staff Duties

TRAINING

Remarks.—Financial restriction compelled the authorities again to keep training within more or less the same limits as obtained last year. Notwithstanding these restrictions however, an appreciable stride in general efficiency was made. A gratifying feature was the keenness and good spirit displayed by

all ranks; the standard of discipline was most satisfactory, and with sufficient funds to permit of training at full peace strength for a longer period at Central Camps, a high state of efficiency would undoubtedly result.

PERMANENT ACTIVE MILITIA

Units of the Permanent Active Militia as shown below carried out training at the camps stated. The training in camp of the units marked * was not completed owing to the strike in Nova Scotia.

Unit	Camp	Period	
		From	To
R.C.D.—			
Headquarters	Niagara	1- 6-22	24- 8-22
"B" Squadron	Petawawa	1- 6-22	14- 8-22
L.S.H.(R.C.)—			
Headquarters	Sarcee	1- 6-22	15- 9-22
"A" Squadron	Hughes	29- 5-22	7- 8-22
"B" "	Sarcee	1- 6-22	15- 9-22
R.C.H.A.—*			
Headquarters	Petawawa	27- 5-22	18- 7-22
"A" and "B" Batteries*	"	27- 5-22	18- 8-22
"C" Battery*	Hughes	29- 5-22	9- 7-22
	Sarcee	10- 7-22	15- 9-22
R.C.G.A.—			
Headquarters	McNab Island	8- 5-22	29- 7-22
No. 1 Battery	"	8- 5-22	17- 6-22
No. 2 "	"	19- 6-22	29- 7-22
No. 3 " *	Petawawa	27- 5-22	18- 8-22
No. 4 " *	"	25- 5-22	18- 8-22
No. 5 "	Rodd Hill	15- 7-22	1- 9-22
R.C.E.—			
No. 6 Detachment	McNab Island	17- 6-22	18- 8-22
		5- 9-22	15- 9-22
R.C.R.—			
Headquarters	Cove Ranges	15- 8-22	15- 9-22
"A" Company	McNab Island	6- 9-22	21-10-22
"B" "	Niagara	1- 6-22	23- 8-22
"C" " *	Cove Ranges	15- 8-22	15- 9-22
"D" " *	Point aux Trembles	15- 6-22	15- 9-22
P.P.C.L.I.—			
Headquarters	St. Charles	11- 7-22	27- 8-22
"A" Company	"	11- 7-22	27- 8-22
"B" "	Heal's R. R.	1- 6-22	15- 7-22
*Royal 22nd Regt.**	Levis	1- 6-22	15- 9-22
R.C.M.G. Bde.—			
Headquarters	Niagara	1- 6-22	23- 8-22
No. 1 Company	Heal's R. R.	15- 7-22	1- 9-22
No. 2 " *	Niagara	1- 6-22	23- 8-22

In cases other than above Permanent Force units trained in their respective areas under arrangements made by District Commanders. In view of the very limited strength of this Force, the heavy calls upon it for strike duty and for instructional and administrative work with the Non-Permanent Active Militia drained it to its utmost resources and interrupted its training to a great extent.

NON-PERMANENT ACTIVE MILITIA

Non-Permanent Active Militia units (except Artillery and C.O.T.C.) were authorized to train at approximately 50 per cent of Peace Establishment for a period of 9 days at a Central Camp, a Local Camp, or Local Headquarters.

The Artillery were authorized to train at 75 per cent of Peace Establishment for 6 days at Local Headquarters and 6 days at Practice Camp for Firing Detachments only.

The C.O.T.C. were authorized to perform 12 days at Local Headquarters.

Units trained at Camps of Instruction or Local Headquarters as shown below:—

Camps of Instruction

Cavalry—(9 days)—

Governor General's Body Guard.
The Princess Louise Dragoon Guards.
Fort Garry Horse.
2nd Dragoons.
3rd Dragoons.
4th Hussars (1 Sqdn.).
7th Hussars.
8th P.L.N.B. Hussars.
9th Grey's Horse.
11th Hussars.
12th Manitoba Dragoons.
13th Scottish Dragoons.
14th Canadian Light Horse.
15th Canadian Light Horse.
16th Canadian Light Horse.
17th D. of Y. R.C. Hussars.
18th Canadian Light Horse.
19th Alberta Dragoons.
The Border Horse.
The New Brunswick Dragoons.
P.E.I. Light Horse.
1st Regt. Sask. Mtd. Rifles.
1st Regt. (2nd C.M.R.) B.C. Mounted Rifles.
1st Regt. (3rd C.M.R.) Alberta Mounted Rifles.
Ontario Mounted Rifles.
1st E. T. Mounted Rifles.
1st Regt. King's N.S. Mtd. Rifles.
1st Regt. The Manitoba Mounted Rifles.
5th Mounted Bde. Hd. Qrs.
6th Mounted Bde. Hd. Qrs.

Artillery—(6 days Practice Camp)—

1st Brigade C.F.A.—
Headquarters
1st Battery
2nd Battery

2nd Brigade C.F.A.—
5th Battery
7th Battery
27th (H) Battery
66th Battery

3rd Brigade C.F.A.—
Headquarters
9th (H) Battery
15th Battery
30th Battery
53rd Battery

4th Brigade C.F.A.—
Headquarters
4th Battery

5th Brigade C.F.A.—
Headquarters
13th Battery
17th Battery
38th (H) Battery

6th Brigade C.F.A.—
24th Battery
35th Battery

8th Brigade C.F.A.—
10th Battery
11th Battery
40th Battery

9th Brigade C.F.A.—
3rd Battery
34th Battery

10th Brigade C.F.A.—
Headquarters
18th Battery
77th Battery

Artillery—Continued
11th Brigade C.F.A.—
16th Battery
29th (H) Battery
12th Brigade C.F.A.—
Headquarters
8th Battery
89th Battery
90th Battery
13th Brigade C.F.A.—
Headquarters
57th Battery
82nd Battery
14th Brigade C.F.A.—
Headquarters
57th Battery
84th Battery
87th Battery
15th Brigade C.F.A.—
31st Battery
68th Battery
85th (H) Battery
5th Siege (attached)
16th Brigade C.F.A.—
26th (H) Battery
83rd Battery
86th Battery
17th Brigade C.F.A.—
21st (H) Battery
44th Battery
18th Brigade C.F.A.—
93rd (H) Battery
19th Brigade C.F.A.—
23rd (H) Battery
91st Battery
20th Brigade C.F.A.—
61st Battery
78th Battery
92nd (H) Battery
1st Heavy Brigade C.G.A.—
Headquarters
2nd Siege Battery
8th Siege Battery
2nd Heavy Brigade C.G.A.—
1st Heavy Battery
7th Siege Battery
3rd Heavy Brigade C.G.A.—
Headquarters
4th Siege Battery
6th Siege Battery
15th Heavy Battery
1st Regiment C.G.A.—
Headquarters
Nos. 1, 2, 3 and 4 Cos.
9th Siege Battery

Artillery—Concluded
5th Regiment C.G.A.—
Headquarters
Nos. 1 and 2 Cos.
12th Siege Battery (attached)
6th Quebec & Levis Regiment C.G.A.—
Headquarters
Nos. 1, 2 and 3 Cos.
Engineers—(9 days)—
1st (Brighton) Field Co.
Canadian Corps of Signals—
No. 8 Signal Co. (9 days)
Corps of Guides—
No. 1 Cyclist Co. (9 days).
Infantry (9 days)—
H.Q. 1st Infantry Brigade
1st Bn. Middlesex Light Infantry
1st Bn. Huron Regiment
1st Bn. Bruce Regiment
1st Bn. Lambton Regiment
H.Q. 5th Infantry Brigade
1st Bn. Haldimand Rifles
1st Bn. Lincoln & Welland Regt.
1st Bn. Grey Regiment
1st Bn. Simcoe Foresters
1st Bn. Halton Rifles
Le Regiment de Chateauguay
Le Regiment de Joliette
Le Regiment de Montmagny
Le Regiment de Beauce
Le Fusiliers du St. Laurent
Le Regiment de Levis
Le Regiment de Quebec
Les Chasseurs Canadiens
Les Franc-Tireurs du Saguenay
1st Bn. P.E.I. Regiment
1st Bn. Colchester & Hants Regiment
1st Bn. Pictou Highlanders
16th Infantry Brigade H.Q.
The Carlton Light Infantry
The York Regiment
The North Shore (N.B.) Regiment
The New Brunswick Rangers
3rd Bn. South Saskatchewan Regiment
4th Bn. South Saskatchewan Regiment
5th Bn. South Saskatchewan Regiment
3rd Bn. North Saskatchewan Regiment
2nd Bn. Alberta Regiment

Canadian Machine Gun Corps (9 days)—
1st Can. Machine Gun Squadron

Canadian Army Service Corps (9 days)—
1st Divisional Train—
No. 1 Co.
No. 2 Co.
2nd Divisional Train—
10th Divisional Train—
No. 1 Co.

Canadian Army Medical Corps (9 days)—
No. 5 Field Ambulance

Canadian Army Medical Corps—Con.
No. 15 Field Ambulance
No. 19 Field Ambulance
No. 2 Cas. Clearing Station

Canadian Army Veterinary Corps (9 days)—
No. 7 Mobile Vet. Section
No. 10 Section

Canadian Ordnance Corps (9 days)—
No. 10 Detachment

Canadian Postal Corps (9 days)—
No. 1 Detachment
No. 10 Detachment

At Local Headquarters—(9 days except where otherwise stated)

Cavalry—
1st Hussars
5th B.C. Horse

Artillery (6 days)—
1st Brigade C.F.A.—
1st Battery
2nd Battery
2nd Brigade C.F.A.—
Headquarters
5th Battery
7th Battery
27th (H) Battery
66th Battery
3rd Brigade C.F.A.—
Headquarters
9th (H) Battery
15th Battery
30th Battery
53rd Battery
4th Brigade C.F.A.—
4th Battery
2nd Heavy Battery
5th Brigade C.F.A.—
Headquarters
13th Battery
17th Battery
19th Battery
38th (H) Battery
11th Siege Battery (att'd)
6th Brigade C.F.A.—
24th Battery
35th (H) Battery
79th Battery
81st Battery
8th Brigade C.F.A.—
Headquarters
10th Battery
11th Battery
40th Battery
9th Brigade C.F.A.—
3rd Battery
34th Battery
10th Brigade C.F.A.—
18th Battery
77th Battery
11th Brigade C.F.A.
Headquarters
16th Battery
29th (H) Battery
12th Brigade C.F.A.—
Headquarters
8th Battery
89th Battery
90th Battery
13th Brigade C.F.A.
57th Battery
82nd Battery
14th Brigade C.F.A.—
Headquarters
52nd Battery
84th (H) Battery
87th Battery
15th Brigade C.F.A.—
Headquarters
31st Battery
68th Battery
85th Battery
5th Siege Battery (att'd)

Artillery (6 days)—*Con.*
16th Brigade, C.F.A.—
36th (H) Battery
83rd Battery
86th Battery
17th Brigade C.F.A.—
21st (H) Battery
44th Battery
18th Brigade C.F.A.—
20th Battery
39th Battery
93rd (H) Battery
19th Brigade C.F.A.—
23rd (H) Battery
91st Battery
20th Brigade C.F.A.—
61st Battery
78th Battery
92nd (H) Battery

Artillery (6 days)—*Con.*
1st Heavy Brigade C.G.A.—
Headquarters
2nd Siege Battery
8th Siege Battery
14th Siege Battery
2nd Heavy Brigade C.G.A.—
1st Heavy Battery
7th Siege Battery
3rd Heavy Brigade C.G.A.—
Headquarters
4th Siege Battery
6th Siege Battery
15th Heavy Battery
1st Regiment C.G.A.—
Headquarters
Nos. 1, 2, 3 & 4 Cos.
9th Siege Battery (att'd)
6th Quebec & Levis Regt., C.G.A.—
Headquarters
Nos. 1, 2 & 3 Cos.

Canadian Engineers.—
3rd Divisional Engineers H.Q.
5th Divisional Engineers H.Q.
2nd Field Company.
3rd Field Company.
5th Field Company.
6th Field Company.
8th Field Company.
13th Field Company.
14th Field Company.
15th Field Company.
1st Field Troop.
4th Field Troop.
6th Field Troop.

Canadian Corps of Signals.—
Headquarters, 2nd, 3rd, 10th and 12th Signal Bns.
Nos. 1, 2, 3, 4, 5, 6, 10, 11, 14, 16, 17 and 19 Signal Cos.
Nos. 7 and 11 Fortress Signal Companies.
1st, 3rd 4th, 5th, and 6th Signal Troops.

Corps of Guides.—
No. 4 Cyclist Company.

Canadian Officers Training Corps (12 days).—
Western University Contingent.
Toronto University Contingent.
Queen's University Contingent.
McGill University Contingent.
Loyola College Contingent.
Laval University Contingent.
Nova Scotia Technical College Contingent.
New Brunswick University Contingent.

Canadian Officers Training Corps (12 days)—*Continued*
Mt. Allison University Contingent.
Manitoba University Contingent.
Saskatchewan University Contingent.
Alberta University Contingent.

Infantry—
1st Bn. Perth Regiment.
1st Bn. The Western Ontario Regiment.
1st Bn. The Oxford Rifles.
1st Bn. The Highland Light Infantry.
1st Bn. The Wellington Rifles.
1st Bn. The Elgin Regiment.
1st Bn. The Essex Fusiliers.
1st Bn. The Kent Regiment.
1st Bn. The Hamilton Regiment.
1st Bn. The Dufferin Rifles.
1st Bn. The Wentworth Regiment.
1st Bn. Princess Louise's (A. & S.) Hldrs. of Can.
1st Bn. The Lincoln Regiment.
1st Bn. The Peel Regiment.
1st Bn. The Norfolk Rifles.
1st Bn. The Queen's Own Rifles of Canada.
2nd Bn. The Queen's Own Rifles of Canada.
1st Bn. The Royal Grenadiers.
1st Bn. The 48th Regiment (Highlanders).
1st Bn. The Irish Regiment.
1st Bn. The Toronto Regiment.
1st Bn. The Toronto Scottish.
1st Bn. The Northern Pioneers.
2nd Bn. The York Rangers.
1st Bn. The Ontario Regiment.
1st Bn. The Princess of Wales' Own Regiment.
1st Bn. The Argyll Light Infantry.
1st Bn. The Hastings and Prince Edward Regiment.
1st Bn. The Frontenac Regiment.
1st Bn. The Lanark & Renfrew Regiment.
1st Bn. The Brockville Rifles.
1st Bn. The Grenville Regiment (Lisgar Rifles).
1st Bn. The Stormont, Dundas & Glengarry Regiment.
1st Bn. The Ottawa Regiment (The D. of C. Own).
1st Bn. The Hull Regiment.
1st Bn. The Northumberland (Ontario) Regiment.
1st Bn. The Victoria & Haliburton Regiment.
1st Bn. The Durham Regiment.
1st Bn. The Peterborough Rangers.
1st Bn. The Governor General's Foot Guards.
1st Bn. The Sherbrooke Regiment.
1st Bn. Les Carabiniers de Sherbrooke.
1st Bn. Le Regiment de St. Hyacinthe.
1st Bn. Les Carabiniers Mont Royal.
1st Bn. The Three Rivers Regiment.
1st Bn. The Victoria Rifles of Canada.
1st Bn. The Royal Highlanders of Canada.

Infantry—Continued

2nd Bn. The Royal Highlanders of Canada.
1st Bn. The Royal Montreal Regiment.
1st Bn. The Canadian Grenadier Guards.
1st Bn. The Royal Rifles of Canada.
1st Bn. Les Voltigeurs de Quebec.
1st Bn. The Princess Louise Fusiliers.
1st Bn. The Halifax Rifles.
1st Bn. The Cumberland Regiment.
1st Bn. The St. John's Fusiliers.
1st Bn. The Winnipeg Rifles.
1st Bn. The Winnipeg Grenadiers.
1st Bn. The Cameron Highlanders.
1st Bn. The Winnipeg Light Infantry.
1st Bn. The Lake Superior Regiment.
1st Bn. The Kenora Light Infantry.
1st Bn. The 1st B.C. Regiment.
2nd Bn. The 1st B.C. Regiment.
3rd Bn. The 1st B.C. Regiment.
1st Bn. The Seaforth Highlanders of Canada.
1st Bn. The Irish Fusiliers.
1st Bn. The Rocky Mountain Rangers.
1st. Bn. The Canadian Scottish.
1st Bn. The South Saskatchewan Regiment.
2nd Bn. The South Saskatchewan Regiment.
1st Bn. The North Saskatchewan Regiment.
2nd Bn. The North Saskatchewan Regiment.
4th Bn. The North Saskatchewan Regiment.
1st Bn. The Edmonton Regiment.
2nd Bn. The Edmonton Regiment.
1st Bn. The Calgary Regiment.
2nd Bn. The Calgary Regiment.
1st Bn. The Alberta Regiment.

Canadian Machine Gun Corps.—

1st Canadian Machine Gun Squadron.
1st Canadian Machine Gun Brigade.
2nd Canadian Machine Gun Brigade.
3rd Canadian Machine Gun Brigade (Hd. Qrs. Nos. 1 & 2 Cos. only).
4th Canadian Machine Gun Brigade.
5th Canadian Machine Gun Brigade (Nos. 1 & 2 Cos. only).
6th Canadian Machine Gun Brigade (No. 3 Co. only).
7th Canadian Machine Gun Brigade.
8th Canadian Machine Gun Brigade.
10th Canadian Machine Gun Brigade (Hd. Qrs. Nos. 1 & 2 Cos.).
11th Canadian Machine Gun Brigade.
12th Canadian Machine Gun Brigade.
13th Canadian Machine Gun Brigade (Hd. Qrs. Nos. 2 & 3 Cos.).

Canadian Army Service Corps.—

Hd. Qrs. & No. 1 & 2 Cos. 3rd Divisional Train.
Hd. Qrs. & No. 2 Co. 10th Divisional Train.
Hd. Qrs. & Nos. 1 and 2 Cos. 11th Divisional Train.
Hd. Qrs. & No. 1 Co. 12th Divisional Train.
13th Divisional Train.

Canadian Army Medical Corps.—
No. 7 Cavalry Field Ambulance.
No. 17 Cavalry Field Ambulance.
No. 1 Field Ambulance.
No. 2 Field Ambulance.
No. 3 Field Ambulance.
No. 8 Field Ambulance.
No. 10 Field Ambulance.
No. 16 Field Ambulance.
No. 18 Field Ambulance.
No. 23 Field Ambulance.

SCHOOLS OF INSTRUCTION

Remarks.—Instructional work has been carried on to the limited extent permissible on the funds available, and under the circumstances very satisfactory results have been obtained.

COURSES IN ENGLAND

During the year officers and N.C.O.'s of the Permanent Active Militia were undergoing courses in England as shown below:

Staff College

Major (Bvt.-Col.) H. F. H. Hertzberg, C.M.G., D.S.O., M.C., R.C.E. January, 1921, to December, 1922.

Capt. (Bvt.-Major) H. T. Cock, M.C., R.C.R. January, 1921, to December, 1922.

Major (Bvt. Lt.-Col.) W. G. Beeman, D.S.O., R.C.A. January, 1922, to December, 1923.

Capt. (Bvt. Lt.-Col.) R. J. Brook, C.B.E., D.S.O., R.C.R. January, 1922, to December, 1923.

Major (Bvt. Lt.-Col.) H. D. G. Crerar, D.S.O., R.C.A. January, 1923, to December, 1924.

Major G. P. Vanier, D.S.O., M.C., Royal 22nd Regt. January, 1923 to December, 1924.

Advanced Course Artillery College

Lieut. (Bvt.-Captain) H. M. Reynolds, R.C.A. November, 1920, to December, 1922.

Lieut. G. F. Morrison, R.C.A. November, 1920, to December, 1922.

Ordnance Officers' Course

Captain (Bvt.-Major) D. E. Dewar, R.C.O.C. January, 1922, to December, 1922.

Gunnery Staff Course

Captain J. H. Roberts, M.C., R.C.A. October, 1921, to July, 1922.
Captain C. C. Shaw, R.C.A. October, 1922, to July, 1923.
Captain R. L. Fortt, R.C.A. October, 1922, to July, 1923.
No. 8070, B.Q.M.S. W. Gray, R.C.H.A. October, 1921, to July, 1922.
No. 8387, Sergt. C. F. Wolfe, R.C.H.A. October, 1921, to July, 1922.

Master Gunners' Course

No. 6568, Sergt. C. Henshaw, R.C.G.A. April, 1922, to March, 1923.
No. 4131, Sergt. W. Rawlings, M.M., R.C.G.A. April, 1922, to March, 1923.

Physical Training Course

Captain F. M. W. Harvey, V.C., M.C., L.S.H. (R.C.) April, 1922, to July, 1923.

School of Military Engineering

Captain J. E. Lyon, R.C.E. September, 1922, to July, 1924.

COURSES IN CANADA

Permanent Active Militia

Staff College Preparatory Course.—The second post-war course for officers preparing for the examination for admission to the Staff College was held from October 1, 1922, to February 26, 1923, at the Royal Military College, Kingston. This course was attended by six officers of the Permanent Active Militia, all of whom competed at the examination for admission to the Staff College for the two vacancies allotted to Canada.

Refresher Course.—In conjunction with the above, a Refresher Course was held for officers of the Permanent Active Militia from October 1 to the end of December, and was attended by eight officers.

Artillery Staff Course.—The first post-war Artillery Staff Course commenced during the last financial year (March 1, 1922), and continued for the following nine months. Five officers and 10 N.C.O.'s qualified at this course.

S.M.E. Halifax.—Courses were held for foremen of works and searchlight operators of the R.C.E. at this school. A total of 8 other ranks attended during the year.

Signal and Small Arms Courses.—See under "Signal Service" and "Small Arms Training" respectively.

Non-Permanent Active Militia

Militia Staff Course.—The Militia Staff Course Syllabus is drawn up so as to enable officers of the Non-Permanent Active Militia to fit themselves for employment on the staff of formations in the field. The theoretical portion of the first post-war course was held in the several districts during the winter months, and proved very popular. Eighty officers attended all the lectures in this portion, while many others attended unofficially from time to time as opportunity offered.

Qualifying and Special Courses.—Qualifying and Special Courses for Non-Permanent Active Militia were held at all Royal Schools of Instruction, but owing to the paucity of funds and the consequent necessity of reducing the pay of candidates, the attendance was not up to the desired standard. This, however, was offset by an increase in the number of Provisional Schools asked for, and, as was the case last year, to cope with the demands made upon them the limited Instructional Staff available was fully taxed.

Courses were conducted at Royal and Permanent Schools as follows:—

Schools	From	To	Number of Courses	Number Attending	
				Officers	O. Rs.
Royal School of Cavalry, Toronto	9–10–22	16–12–22	2	1	.....
" " "	15– 1–22	24– 3–23	.....	2	11
" " St. Jean, P.Q.	9–10–22	16–12–22	2	1	2
" " "	15– 1–23	24– 3–23	.....	1	5
" " Winnipeg	9–10–22	16–12–22	2	7	1
" " "	15– 1–23	24– 3–23	.....	8	20
" " Calgary	9–10–22	16–12–22	2	2	2
" " "	15– 1–23	24– 3–23	.....	10	9
Royal School of Artillery, Kingston	6–11–22	16–12–22	2	2	6
" " "	1– 1–23	10– 2–23	.....	3	29
" " Winnipeg	6–11–22	16–12–22	2	2	4
" " "	1– 1–23	10– 2–23	.....	3	17
" " Halifax	6–11–22	9–12–22	1	.....	10
" " Esquimalt	15– 1–23	10– 3–23	1	2	.....
Royal School of Military Engineering, Halifax.	15– 1–23	10– 2–23	1	1	2
Royal School of Infantry, London	9–10–22	16–12–22	2	1	.....
" " "	15– 1–23	24– 3–23	.....	4	3
" " Toronto	9–10–22	16–12–22	2	4	.....
" " "	15– 1–23	24– 3–23	.....	4	9
Royal School of Infantry, Montreal	9–10–22	16–12–22	1	.....	4
" " Quebec, P.Q.	9–10–22	16–12–22	2	2	.....
" " "	15– 1–23	24– 3–23	.....	3	2
" " Winnipeg	9–10–22	16–12–22	2	2	.....
" " "	15– 1–23	24– 3–23	.....	1	9
" " Victoria	9–10–22	16–12–22	2	4	.....
" " "	15– 1–23	24– 3–23	.....	5	2
" " Halifax	9–10–22	16–12–22	2	3	1
" " "	15– 1–23	24– 3–23	.....	3	5
Royal School of Machine Guns, Toronto	20–11–22	16–12–22	2	2	7
" " "	8– 1–23	3– 2–23	.....	2	.....
" " Winnipeg	20–11–22	16–12–22	2	.....	10
" " "	8– 1–23	3– 2–23	.....	2	.....

In addition to the above the number of Provisional Schools conducted for the various arms were:—

Arm.	*No. of Schools.*
Cavalry	10
Artillery	1
Engineers	1
Signals	49
Infantry	45
Machine Guns	20
Army Service Corps	3

The number of officers and N.C.O.'s who obtained qualifying certificates at the above schools is shown in statements appearing on pages 24 to 27.

Staff Tours, War Games, etc.

Staff Tours, War Games and Tactical Exercises were carried out at various times and places under arrangements made by District Commanders. These exercises were well attended and produced good results.

EXAMINATIONS

Promotion Examinations—Permanent Active Militia

During the year a total of 41 officers presented themselves at the examinations held in April and October. Of this number, 4 qualified in one or more subjects for the rank of Lieutenant-Colonel, 10 for the rank of Major, and 13 for the rank of Captain.

Foreign Languages

Interpretership examinations in French were held under the regulations of the British Civil Service Commissioners, at certain centres in Canada in June, 1922, and January, 1923, at which officers qualified as follows: 1st Class Interpreter, 1; 2nd Class Interpreter, 7.

Canadian Officers Training Corps

In addition to the work carried out by contingents of the C.O.T.C. as shown under "Training" above, at the examinations held in November and March, 181 candidates obtained Certificate "A," and 32 passed for Certificate "B."

The former qualifies a candidate for a commission in the Non-Permanent Active Militia, and the latter is equivalent to a certificate for the rank of Captain in that force.

A summary of results of the above examination are as follows:

District	Contingent	Certificate "A"				Certificate "B"			
		Practical		Written		Practical		Written	
		Attending	Passed	Attending	Passed	Attending	Passed	Attending	Passed
1	Western University	6	6	6	6				
2	Toronto University	37	35	34	34	3	3	3	3
3	Queen's University	36	34	34	23	12	11	11	8
	5th Field Company	22	22	22	19				
4	McGill University	28	16	16	14	9	7	7	4
	Loyola College	13	7	7	7				
5	Laval University	33	21	19	13				
6	Nova Scotia Technical College	16	9	9	9	1	1	1	1
7	New Brunswick University	22	22	22	21	9	9	9	2
	Mount Allison University	20	17	15	2	8	8	8	2
10	Manitoba University	29	27	27	19	12	12	12	9
12	Saskatchewan University	18	18	18	14	5	4	4	4
13	Alberta University	11	5	5	2				
	Totals	291	239	234	183	59	55	55	33

RETURN OF CERTIFICATES GRANTED BETWEEN APRIL 1, 1922, AND MARCH 31, 1923

Officers

Name of School	Field Officers	Captains	Lieutenants	Quartermasters	Equitation	C.S.C.I. Grade "A"	Partial	Physical Training Instructors	Artillery Staff Course	Hotchkiss Gun Instructors (Cavalry)	"A" Wing		"B" Wing		Signals			Total
											Distinguished	Instructor	Distinguished	Instructor	Grade "A" V.T.	Grade "B" V.T.	Grade "A" L.T.	
Royal School of Artillery, Kingston	...	...	5	...	7	...	...	...	5	...	...	...	...	...	...	...	...	17
Royal School of Artillery, Halifax	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Royal School of Artillery, Winnipeg, Man	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Royal School of Artillery, Esquimalt, B.C	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Royal School of Cavalry, Toronto, Ont	1	2	4	...	3	...	...	...	...	...	...	...	...	...	...	...	...	10
Royal School of Cavalry, St. Jean, P.Q	...	2	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	5
Royal School of Cavalry, Winnipeg, Man	5	8	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	16
Royal School of Cavalry, Calgary, Alta	4	2	4	...	1	...	...	...	...	...	...	...	...	...	...	...	...	11
Royal School of Infantry, London, Ont	2	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Royal School of Infantry, Toronto, Ont	1	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Royal School of Infantry, Montreal, P.Q	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Royal School of Infantry, Quebec, P.Q	3	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Royal School of Infantry, Halifax, N.S	2	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
Royal School of Infantry, Winnipeg, Man	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Royal School of Infantry, Victoria, B.C	1	4	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
Royal School of Machine Guns, Toronto, Ont	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Royal School of Machine Guns, Winnipeg, Man	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Canadian Small Arms School	...	...	...	...	...	...	...	...	...	...	8	...	3	...	...	...	...	11
Provisional Schools of Cavalry	8	14	16	...	15	...	10	...	...	...	...	...	...	...	...	...	...	63
Provisional Schools of Infantry	48	94	172	...	...	3	...	...	...	...	...	...	...	...	...	...	...	317
Provisional Schools of Machine Guns	3	15	42	...	...	...	...	...	...	5	...	...	...	...	...	...	...	65
Provisional Schools of Signalling	...	...	...	...	...	...	...	...	...	...	...	...	...	40	3	15	...	58
Provisional Schools of A.S.C	...	...	2	4	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Provisional Schools of A.M.C	...	1	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Cadet Instructors' Course, London, Ont	...	...	...	...	...	26	...	...	...	...	...	...	...	...	...	...	...	26
Cadet Instructors' Course, Stratford, Ont	...	...	...	...	...	28	...	...	...	...	...	...	...	...	...	...	...	28
Cadet Instructors' Course, Toronto, Ont	...	...	...	...	...	38	...	...	...	...	...	...	...	...	...	...	...	38
Cadet Instructors' Course, Port Arthur, Ont	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Cadet Instructors' Course, Ottawa, Ont	...	...	...	...	...	37	...	...	...	...	...	...	...	...	...	...	...	37
Cadet Instructors' Course, Peterboro, Ont	...	...	...	...	...	22	...	...	...	...	...	...	...	...	...	...	...	22
Cadet Instructors' Course, Point aux Trembles, P.Q	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	4
Cadet Instructors' Course, River du Loup, P.Q	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	5
Cadet Instructors' Course, Beauport, P.Q	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	5

Cadet Instructors' Course, Quebec, P.Q.	....	....	....	....	....	14	....	....	....	....	....	....	....	....	....	....	....	....	14
Cadet Instructors' Course, Three Rivers, P.Q.	....	....	....	....	....	13	13	....	....	....	....	....	....	....	....	....	....	....	13
Cadet Instructors' Course, Edmonton, Alta.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	13
C.O.T.C. Candidates	....	10	161	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	171
Physical Training Courses, Winnipeg, Man.	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	2
Board of Examiners	1	....	....	12	1	....	....	....	....	....	....	....	....	....	....	....	....	....	14
Totals	87	162	426	16	31	196	23	2	5	5	....	8	....	3	40	3	15		
Grand total	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1,023

RETURN OF CERTIFICATES GRANTED BETWEEN APRIL 1, 1922, AND MARCH 31, 1923

Warrant Officers, Non-Commissioned Officers and Men

Name of School	Bombardiers or Corporals	Lance-Sergeants and Sergeants	Quartermaster-Sergts.	Buglers, Troopers, Gunners and Privates	Artillery Staff Course	Equitation	Field Works and Artificers	Hotchkiss Gun Instructors	Instructors	Grade "B"	Signalling								Cadets Signalling			Musketry "A" Wing	Machine Guns "B" Wing	Specialist (P.F.)	Artillery Specialist	Partial	Total
											Grade "A" V.T.	Grade "B" V.T.	Grade "A" L.T.	Grade "B" L.T.	Signalling	Asst. Instructor's V.T.	Operators V.T.	Operators L.T.	1st Year Semaphore	2nd Year Morse	Cadet advanced						
Royal School of Artillery, Kingston, Ont.	4	6	....	....	6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	16
Royal School of Artillery, Halifax, N.S.	4	6	....	....	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	....	19
Royal School of Artillery, Winnipeg, Man.	....	16	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	17
Royal School of Artillery, Esquimalt, B.C.	....	11	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	11
Royal School of Cavalry, Toronto, Ont.	6	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	11
Royal School of Cavalry, St. Johns, P.Q.	13	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	18
Royal School of Cavalry, Winnipeg, Man.	16	20	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	36
Royal School of Cavalry, Calgary, Alta.	2	14	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	16
Royal School of Infantry, London, Ont.	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Royal School of Infantry, Toronto, Ont.	2	6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8
Royal School of Infantry, Quebec, P.Q.	11	16	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	27
Royal School of Infantry, Halifax, N.S.	2	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4
Royal School of Infantry, Winnipeg, Man.	5	19	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	24
Royal School of Infantry, Victoria, B.C.	8	9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	17
Royal School of Machine Guns, Toronto, Ont.	5	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	10

WARRANT OFFICERS, NON-COMMISSIONED OFFICERS AND MEN—*Continued*

Name of School	Bombardiers or Corporals	Lance-Sergeants and Sergeants	Quartermaster-Sergts.	Buglers, Troopers, Gunners and Privates	Artillery Staff Course	Equitation	Field Works and Artificers	Hotchkiss Gun Instructors	Instructors	Grade "B"	Signalling								Cadets Signalling			Musketry "A" Wing	Machine Guns "B" Wing	Specialist (P.F.)	Artillery Specialist	Partial	Total
											Grade "A" V.T.	Garde "B" V.T.	Grade "A" L.T.	Grade "B" L.T.	Signalling	Asst. Instruc-V.T.	Operators V.T.	Operators L.T.	1st Year Semaphore	2nd Year Morse	Cadet advanced						
Royal School of Machine Guns, Winnipeg, Man.	7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	7
Canadian Small Arms School	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	23	11	....	....	....	34
Provisional Schools of Cavalry	60	48	....	8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	121
Provisional Schools of Engineers	....	9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	9
Provisional Schools of Signals	....	....	....	....	....	....	....	....	....	....	219	174	18	22	60	11	24	8	1,186	242	60	....	....	96	....	....	2,120
Provisional Schools of Inf'try.	170	242	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	413
Provisional Schools of Machine Guns	55	79	....	....	....	....	....	10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	144
Armourer's Course	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Physical Training Course	....	....	....	....	....	....	....	....	7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	7
Board of Examiners	....	....	42	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	42
Provisional Schools of A.S.C.	....	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	15
Normal and Public Schools	....	....	....	....	....	....	....	....	1	5,088	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5,089
Survey Course, M.H.Q., Ottawa	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6	....	....	6
C.M.S.C. Examinations																											
Stenography and typewrit'g	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	48	....	....	48
Totals	372	534	42	8	10	1	3	10	8	5,088	219	174	18	22	60	11	24	8	1,186	242	60	23	11	150	5	6	
Grand total	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8,295

CERTIFICATES ACQUIRED BY W.O'S AND N.C.O'S (PERMANENT FORCE) AT COURSES HELD IN ENGLAND

Equitation	4
Master Gunner's	1
Gunnery Staff Course (Part 1)	1
Total	6

(4) Artillery

Armament

Four additional Q.F. 12-pr. guns of the coast Defences were secured from the Department of Naval Service to replace a similar number which had almost reached the end of their life.

Two Q.F. 6-inch guns and mountings were taken over from the Department of Naval Service during the latter part of the year, and arrangements made to mount them at an early date. These guns were secured to replace two entirely obsolete B.L. 6-inch guns, and were much needed to give training and practice to the N.P. Coast Artillery units in a more modern equipment of this calibre.

The serviceability of armaments was maintained in so far as the limitation of funds permitted. A large amount of alterations are however outstanding to keep the equipment up to the changes required for modern requirements. These will be carried out when stores now due arrive and as additional funds become available.

(5) Signal Service

The Royal Canadian Corps of Signals, since reconstitution with an establishment of 5 officers and 14 other ranks, which included the Instructional Cadre of 12 non-commissioned officers, has been gradually increased until at the end of the fiscal year the limited establishment consisted of 6 officers and 57 other ranks.

The primary object of having in Canada a Permanent Corps of Signals is to provide for an efficient body of officers, non-commissioned officers and men thoroughly trained in Signal work, in order that it may be possible to provide for an efficient Signalling Instructional Staff in the various Military Districts in Canada to:—

(*a*) Establish Schools of Signalling at Regimental Headquarters and Camps for the Signal Battalions, Companies and Troops of The Canadian Corps of Signals, and the Regimental Signal Sections of Cavalry, Artillery, Infantry and Machine Gun Units of the Non-Permanent Active Militia.
(*b*) To provide for inspection, research and experimental work in connection with Signal equipment for use in the Army.
(*c*) To provide, where necessary, personnel for the operation of Army telephone systems at defended localities throughout the Dominion.
(*d*) To provide for the operation of Wireless Stations in the various Military Districts as circumstances warrant.
(*e*) To provide for the operation of Wireless Stations which may be required by various Departments of the Government.

The limited establishment, as authorized, is quite inadequate to cover properly the large field of operations open to the Signal Service, in addition to furnishing the requisite number of Instructors in Signalling to the various Military Districts throughout the Dominion. However, during the past year notable progress has been made in all branches of the Signal Service as compared to results obtained during the preceding year.

Signals Inspection and Test Division

A small staff is employed in this division and the personnel have been kept fully employed throughout the year at the testing and assembling of Wireless Telegraph Sets for issue to Canadian Corps of Signals Units, Non-Permanent

Active Militia. In addition, a large amount of test and research work has been performed and Wireless Telegraph Sets have been constructed for use by other Departments of the Dominion Government.

It is to be anticipated that the importance of this division of the Royal Canadian Corps of Signals will be further increased during the coming year consequent upon the installation and operation of Wireless Stations for the Department of the Interior (Yukon and Northwest Territories Branch) and the various additional Stations required by the R.C.A.F. during the coming summer. The whole of the equipment mentioned is assembled and tested in the Signals Inspection and Test Division, Ottawa.

Radio Station Operations by the Royal Canadian Corps of Signals

The wireless communication established in 1921 by the R.C.C.S. for use by the Royal Canadian Air Force between Ottawa and Camp Borden Station has been in continual operation throughout the year, resulting in a very considerable degree of saving in the cost of Long Distance calls and telegrams for the R.C.A.F. and the speed-up of the work and the facility with which messages between Ottawa and Camp Borden may be passed and replies received.

These stations give the necessary facilities for the practical training of Radio operators.

All the men of the R.C.C.S. now in charge of the operating of the various other stations installed for the R.C.A.F. have received their preliminary training on the Ottawa-Borden system.

The R.C.C.S. have taken over all Air Force wireless equipment and now control the operation of their Radio Stations throughout Canada.

Throughout the summer of 1922 the R.C.C.S. established and operated Wireless Stations for the R.C.A.F. at Winnipeg, Victoria Beach and Norway House on Lake Winnipeg, and at High River, Alberta. This service was carried out in connection with the Forestry Patrols conducted by the Air Force in Manitoba and Alberta, radio telegraph and telephone communications being maintained between the planes and the ground stations located at these centres.

In the case of High River, for instance, the range covered has been between 125 and 150 miles, and a distance of 170 miles has been reached with perfect results. It is a matter of record that one of the largest forest fires detected in Alberta last year was reported by radio telephony from the air at a distance of 190 miles from the Air Station from which the plane had set out on its patrol.

Over five hundred flights were made between June and December, 1922, from the High River Air Station and over 90 per cent of these were entirely successful from a communication point of view.

The Air Station at Victoria Beach on lake Winnipeg was in continuous communication with the Station at High River by radio telegraph, a distance of 790 miles.

The value of this service cannot be reckoned in dollars and cents and during the year 1922 it paid for itself many times over, due to the rapidity with which information was obtained in connection with forest fires which were extinguished before they had had sufficient time to grow and get beyond control.

The operations of these Stations are to be carried on again for the R.C.A.F. during the summer of 1923.

Northwest Territories and Yukon

Negotiations between the Department of the Interior and the Department of National Defence have resulted in an arrangement for the establishing of Wireless Stations up the Mackenzie Valley connecting with Stations to be located at Dawson City and the mining camp of Mayo.

Instructional Cadre—Signals

Provisional Schools of Signalling.—During the year under report, a total of 49 Provisional Schools of Visual Telegraphy were conducted as compared to 47 in the previous year. Provisional Schools of Line Telegraphy to the number of 6 were held as compared to 1 during the year 1921-22.

Cadet Classes in Signalling.—During the year under report, Cadet Classes have been held concurrently with Provisional Schools above reported upon, and in addition, at certain centres special Cadet Classes only, were held.

The total number of Classes of Cadets conducted during the year amounts to 53 as compared with 44 for the previous year.

A total of 129 Annual Inspections of Signallers were held with Signal Sections of the Non-Permanent Active Militia. The number presenting themselves for Classification during the year shows a considerable increase. 796 Signallers were presented for classification and of these 435 qualified as 1st Class Signallers, and 225 as 2nd Class Signallers.

The Assistant Instructors on the Instructional Cadre-Signals were kept actively employed in the training and conducting of schools in connection with the Regimental Signallers of other units of the Permanent Active Militia of the Dominion.

From June 1 to August 30, Officers and Instructors of the R.C.C.S. assembled at Camp Borden for intensive training, and concurrently with such training, a very successful school in Visual Telegraphy for Officers and N.C.O.'s of other Permanent Force units was conducted.

Canadian Corps of Signals, Non-Permanent Active Militia.—The organization and training of the Canadian Corps of Signals has progressed favourably throughout all districts during the year under report.

(6) Small Arms Training

PERMANENT ACTIVE MILITIA

During the period under review the following weapon training courses were carried out:—

1. *Rifle Course.*—Recruits of Cavalry, Engineer, Infantry and Machine Gun units fired the practices of Table "A" of Addendum No. 7 to Musketry Regulations, Part I, 1909 (Reprint 1914).

Trained soldiers of Cavalry and Infantry units fired Table "B" of Addendum No. 7.

Trained soldiers of all other units fired the practices as shown in Part I, Table "C," also classification practices 21 to 29 inclusive of Part III, Table "B" of Addendum No. 7.

The Royal Canadian Machine Gun Brigade, in addition, fired Part III, Table "C."

2. *Revolver Course.*—All ranks authorized to be armed with the revolver fired the practices as laid down in Parts I and II of Addendum No. 3. In addition, Cavalry personnel fired the mounted practices as laid down in that Addendum.

3. *Light Gun Course.*—Units armed with Lewis and Hotchkiss guns fired Parts 1, 2, 3 and 5 of Table "L," Addendum No. 6.

The results obtained in the foregoing courses showed a marked improvement over those of the previous fiscal year, and may be considered quite satisfactory.

NON-PERMANENT ACTIVE MILITIA

1. *Rifle Course.*—The course as fired was that laid down in "Memorandum for Camps of Instruction, 1922—Part I."

2. *Revolver Course.*—All ranks armed with the revolver fired Part I of Addendum No. 3 to Musketry Regulations, Part I, 1909 (Reprint 1914).

3. *Light Gun Course.*—The practices fired by units armed with the Lewis and Hotchkiss guns were those as shown in the memorandum already referred to

The results obtained in the foregoing courses were quite satisfactory.

CAMBRIDGE CHALLENGE BOWL

In accordance with the conditions set forth in Militia Order No. 76 of 1922, the Cambridge Challenge Bowl was competed for and won by No. 3 (Hvy.) Battery, The Royal Canadian Garrison Artillery, Kingston, Ontario, with an average score of 129.5 points.

BEST SHOT BADGES

Best Shot Badges were awarded to the best shots in the various units of the Non-Permanent Active Militia, in accordance with the conditions set forth in Militia Order No. 78 of 1922. The names of the winners have appeared in Militia Orders.

RIFLE ASSOCIATIONS

On March 31, 1923, there were in existence 130 Military Rifle Associations with a total membership of 23,273, and 110 Civilian Rifle Associations with a total membership of 6,160.

The Dominion of Canada Prize, the conditions in regard to the competition for which are contained in Militia Order No. 58 of 1922, was competed for in 14 Civilian Rifle Associations.

The Dominion of Canada Rifle Association and the Provincial Rifle Association held annual rifle meetings during the fiscal year.

CANADIAN SMALL ARMS SCHOOL COURSES

Regular Courses (Nos. 3 and 4) opened at Rockliffe, Ottawa, Ontario, on 17th July, 1922 and ended 30th September, 1922. The courses were originally intended to conclude on 16th September; but the School suddenly received orders to proceed to Cape Breton, N.S., for duty in the Glace Bay area. At a few hours notice the Commandant, Staff and students, left Ottawa by special train for that place.

On returning to Ottawa the courses were extended to September 30, consequently the full courses as originally planned were completed.

"A" and "B" Wings only were in operation. "C" Wing was not in operation during the period under review.

Students for the foregoing courses were accepted from all Military Districts, the numbers being as follows:—

"A" Wing

Officers.—8 Other ranks.—24

"B" Wing

Officers.—3 Other ranks.—11

Those attending the courses were:—

(i) Selected officers of the Permanent Active Militia.
(ii) W.O's. & N.C.O's. of the Instructional Cadre.
(iii) Prospective Instructors for the Instructional Cadre.

Examination results were as under:—

"A" Wing

	Passed	Failed
Officers	8	Nil.
Other ranks	23	1

"B" Wing

Officers	3	Nil.
Other ranks	11	Nil.

The courses were a success in every respect.

(7) Historical Section

Collection, Classification and Disposal of Historical Documents

The work of opening up and disposing of "Custody Parcels," containing the files, maps, reports, orders, returns and correspondence of overseas units and formations has been continued. This involved the classification, indexing and filing of the undermentioned material:—

97 large packing cases containing 1,004 custody parcels consisting of 5,263 files and folders and a large number of maps and plans.

A quantity of valuable reports, field messages, confidential documents, maps, etc., pertaining to Canadian Military activities during the War have been collected from individual officers of the C.E.F.

Official History of the C.E.F. in Canada

Skeleton histories of the four Canadian Cavalry Regiments, the 13 C.M.R. Regiments and 262 Canadian Overseas Infantry Battalions have been compiled showing—

Designation and change of designation.
Authority for formation.
Date mobilization commenced and where recruited.
Date of sailing from Canada.
Date of arrival in England.
Date of sailing for France.
Date of arrival in France.
Date of return from France
Date of arrival in England.
Date of sailing for Canada.
Date of arrival in Canada.
Date and place of demobilization.
Date disbanded and disposal of personnel.
Designation of perpetuating unit in the reorganized Militia.

An equitable scheme for the awarding of Battle Honours to Canadian Cavalry Regiments and Infantry Battalions was drawn up by this Section and is being recommended by the Battle Honours Committee for adoption after endorsation by Military Districts and units of the Active Militia. The fact that the award to each unit is based on the actual number of men engaged in battle necessitated close perusal of acquittance rolls, Part II orders and sailing lists, as well as a comparison with Battle Honours awarded in the British Army. The work of compiling a statement for each battalion in the field, showing its composition at the end of each month in terms of reinforcements from depleted C.E.F. battalions is being proceeded with.

Compilation of an Historical Account of the Military Forces of Canada in the Great War

An outline history of the 1st Canadian Division has been written and submitted to the Chief of Staff.

The History of the Canadian Medical Services in the Great War by Sir Andrew Macphail, Kt., O.B.E., B.A., M.D., C.M., LL.D., M.R.C.S., L.R.C.P., F.R.S.C., has been submitted to the Chief of Staff for approval prior to publication. This will be the first of a series of official volumes dealing with the history of the Canadian Forces, 1914-1919.

Data for an outline history of the 2nd Canadian Division and also for the first general volume of the official history of the Canadian Forces in the Great War are in course of preparation.

Lists of Commanding Officers and Staffs of all units in the Canadian Corps have been compiled, giving the name of the officer actually filling the appointment, and all changes in tactical command throughout the period of the Great War.

Progress has been made in the compilation of the "Who's Who" of Canadian Airmen in the War. Lists have been compiled and forwarded to the Record Office and to the Air Ministry, London, requesting further information.

Maps have been prepared, illustrating the fighting of the Canadian Division during the Second Battle of Ypres, for inclusion in the official history. The dispositions shown have been corroborated by a number of officers who were present at the battle.

Maps have been prepared to illustrate a monograph written by the Deputy Director General of the Medical Service on "the Canadian Army Medical Corps with the Canadian Corps during the Last 100 days, Aug.—Nov. 1918."

Charts have been prepared giving the following daily information relating to the Canadian Corps, the four Canadian Divisions and the twelve Canadian Infantry Brigades:—

(i) Location of Headquarters.
(ii) Frontage held (by map location).
(iii) Reliefs.
(iv) Attacks, with the Zero hour.
(v) Short précis of operations.

These are now completed for the full period up to 30th November, 1918.

Charts have been completed showing daily disposition of units of the Canadian Corps during the battles of Mount Sorrel, the Somme, 1916, Vimy Ridge, Hill 70, and the Last 100 days.

The British battle areas as adopted by the War Office have been plotted on large scale maps and a table prepared showing the days of battle on which Canadian units were in these areas. Discrepancies and inconsistencies have been noted with a view to amendment.

Historical Monographs on Military Subjects in Connection with the History of Canada

Notes, statistics, maps and charts were drafted illustrative of Canadian service on the Western Front as exemplified by casualties sustained in the various battle areas during the war. The facts outlined formed the basis for the decision made by the Battlefields Memorials Committee to erect the main Canadian Memorial on Vimy Ridge instead of on Hill 62 (near Mount Sorrel) as had previously been the intention. As a result France has made a gift to Canada of the battleground on Vimy Ridge.

The Order of Battle of the Canadian Division and a suggested inscription for the St. Julien War Memorial was prepared on request of the Canadian Battlefields Memorials Committee.

The following material was prepared for the Sir Arthur Currie Hall, at the Royal Military College, Kingston:—

(i) A complete list of all Canadian units which served in France—over 600 in number—with notes on formation, designation and disposition.

(ii) Coloured plate showing identification patches worn by Canadian units in the field.

(iii) Photostat copies of Canadian Regimental badges.

(iv) Plan for suggested bronze plate giving the chief battles and other engagements on the Western Front in which Canadian formations participated, 1915-1918.

A report was prepared on motion picture activities during the war, dealing with the development of the organization, the profits derived therefrom and the final disposition of negatives and prints.

A summary of the history of the 106th Regiment (Winnipeg Light Infantry), together with outline histories of the following C.E.F. battalions was prepared and forwarded to the Durham Light Infantry Association, England, with which regiment these units are allied.

10th Battalion (Canadians)—now
1st Battalion the Calgary Highlanders.
1st Battalion the Winnipeg Light Infantry.

27th Battalion (City of Winnipeg)—now
1st City of Winnipeg Battalion (The Manitoba Regiment).

44th Battalion—now
1st Battalion, the Carleton Light Infantry.

61st Battalion (Winnipeg)—now
2nd (Reserve) Battalion, the Winnipeg Light Infantry.

101st Battalion (Winnipeg Light Infantry)—now
3rd (Reserve) Battalion, the Winnipeg Light Infantry.

222nd Battalion—now
4th (Reserve) Battalion, The Winnipeg Light Infantry.

226th Battalion—now
5th (Reserve) Battalion, The Winnipeg Light Infantry.

With a view to showing that the contribution in men of Simcoe County to the C.E.F. is perpetuated in the Active Militia, a short history of the Simcoe Foresters was compiled which provided information concerning the 35th Regiment (Simcoe Foresters), the 157th and 177th Overseas Battalions, together with a statement showing recruiting statistics for Simcoe County.

Statistics have been compiled relating to the number of men supplied from the 12th York Rangers to the C.E.F. and notes re the 35th, 127th and 220th Battalions, C.E.F., whose memory the York Rangers perpetuate.

A list of Battles and other Engagements in which Canadian units participated on the Western Front, 1915-1918, and based on the Report of the War Office Committee, has been prepared and issued to the press and will appear in newspapers throughout Canada.

Summaries of battles and various outline histories were compiled during the year, including the following:—

(i) A short summary of the Battle of Vimy Ridge.

(ii) Statistics and notes relating to Hill 70 operations.

(iii) Summary of operations and moves of the 31st (Alberta) Battalion from June, 1916, to October, 1917.

(iv) Short summary of operations and moves of the 16th Battalion (Canadian Scottish) from April, 1915, to June, 1916.

(v) Short outline history of the 21st Battalion (Eastern Ontario Regiment).

(vi) Information relating to operations and moves of the 49th Battalion (Edmonton Regiment).

A statement in detail showing number of Prisoners of War captured by Canadians on the Western Front was drawn up.

Assistance has been given in the preparation of Regimental Histories. This includes the copying, checking and despatch of triplicate War Diaries of the following units of the Canadian Expeditionary Force:—

The Royal Canadian Regiment.
Princess Patricia's Canadian Light Infantry.
19th Alberta Dragoons.
4th C.M.R. Battalion.
7th Battalion (1st British Columbia Regiment).
8th Battalion (90th Rifles).
13th Battalion (Royal Highlanders of Canada).
21st Battalion (Eastern Ontario Regiment).
29th (Vancouver) Battalion.
47th Battalion.
49th Battalion (Edmonton Regiment).
72nd Battalion (Seaforth Highlanders of Canada).
87th Battalion (Canadian Grenadier Guards).
9th Battalion, Canadian Railway Troops.

The manuscript of a monograph on the "C.A.M.C. with the Canadian Corps during the last 100 days" written by the Deputy Director General of Medical Services was read with a view to publication.

Compilation of Information for the Historical Section of the Committee of Imperial Defence

Copies of 87 War Diaries (including 36 maps) of various Canadian formations and units have been prepared and despatched to the Historical Section (Military Branch) Committee of Imperial Defence.

Preparation of Location Ledgers for Canadian Units in the Field for the Imperial War Graves Committee and for the Record Office

Numerous enquiries have been received from the Record Office as to location and employment of units on certain dates. This information has been supplied and where necessary, a brief summary of operations has been given.

Supply of Information to Historical Investigators

Many requests for historical information made by individuals, Associations and the Press have been answered.

(8) Cadet Services

Owing to a reduction of $100,000 in the Appropriation for Cadet Services, the activities of this Directorate were much curtailed, and the usual summer courses held for the purpose of enabling male School Teachers to qualify as Cadet Corps Instructors were cancelled, as were also the Cadet Camps, which during the previous year were attended by over 11,000 Cadets.

Provisional Schools were, however, held at various centres and 196 Teachers obtained Cadet Instructors' Certificates, and with the co-operation of these gentlemen it was found possible to raise 80 Cadet Corps during the year; the enrolled strength at the close of the fiscal year, 1923, being 109,395, a gain of 7,964 Cadets over the previous year.

The number of Cadets by provinces is as follows:—

Nova Scotia	3,444
Prince Edward Island	885
New Brunswick	1,637
Quebec	47,116
Ontario	31,836
Manitoba	9,174
Saskatchewan	3,959
Alberta	5,453
British Columbia	5,891
Total	109,395

Physical Training

The department has continued to provide instructors for duty at normal schools, and during the year 6,753 teachers-in-training attended courses of instruction in physical education, of whom 5,088 obtained certificates of qualification issued by the department. In addition to these classes refresher courses were held at various centres, attended by 1,411 school teachers.

Permanent Force Instructors

To enable the department to meet the constantly increasing demands for the services of highly qualified Physical Training Instructors, special courses were held during the year at which two officers and twenty-three non-commissioned officers of the Permanent Force obtained advanced certificates of qualification.

Signalling

Much attention has been given during the year to instruction in Signalling; fifty-three classes were held and the following certificates issued to Cadets:—

Semaphore	1,186
Morse	242
Advanced	60
Total	1,488

Competitions in Musketry

Canadian Cadets took part during the year in many important competitions.

In the Imperial Challenge Shield Rifle Match, which is open to teams of boys from all parts of the British Empire, 209 Canadian teams took part; the Governor General's Trophy, awarded to the Unit from Canada making the greatest all-round effort in the competition, being won by No. 328, Saskatoon Collegiate Institute Cadet Corps, Saskatoon, Sask.

Twenty-two teams competed in the King George V Cup competition, which was won by No. 526, The Winnipeg Grenadiers Cadet Corps, Winnipeg, Man., with No. 14, Quebec High School, in second place.

The Royal Military College Shield Competition was won by No. 62, Hamilton Collegiate Institute Cadet Corps, Hamilton, Ont., with No. 112, Victoria High School Cadet Battalion, Victoria, B.C., second.

The Governor General's Challenge Shield

This Shield, which is awarded annually to the province having the largest number of enrolled Cadets in proportion to the school attendance, was won by the Province of Quebec, to be held for a period of six months by each of the

following Cadet Corps, who were found to be the most proficient in drill and musketry in that province:—

No. 247, Academie de La Salle Cadet Corps, Three Rivers, P.Q.
No. 352, Academie Commerciale Cadet Corps, Quebec, P.Q.

Dominion of Canada Rifle Association

One hundred and ninety-two Cadets were admitted to membership in the Dominion of Canada Rifle Association during the year, 95 of whom attended the annual prize meeting at the Connaught Rifle Range, an increase of 52 over the previous year. These young marksmen were very successful.

(9) Aviation

January 1 to March 31, 1923

A report on aviation in Canada covering the calendar year 1922, has already been published in the final report on the Air Board, which ceased to exist on December 31, 1922. On that date, under the Act creating the Department of National Defence, the powers, duties and functions of the Air Board were assumed by the Minister of National Defence. In this report it will, therefore, only be necessary to cover the last quarter of the financial year 1922-23.

In the present stage of development of aviation, there is little demand for flying in Canada during the winter months. The period is, therefore, one of quiet in so far as actual flying operations are concerned. It is rather one of planning and preparation for the coming flying season. Actual flying is confined to experimental work in the investigation of winter flying conditions and to Air Force training. It is an active time, however, in the repair shops and depots of the Royal Canadian Air Force and of commercial companies. Machines are being overhauled and repaired, the results of the previous season's operations are being compiled and studied, and plans being perfected for the coming summer's work.

For convenience this report will be divided into sections as follows:—

1. Royal Canadian Air Force.
   - (*a*) Organization and Training.
   - (*b*) Operations for other Government Departments.
   - (*c*) Equipment and Technical Services.
   - (*d*) Expenditures.
2. Civil Aviation.
   - (*a*) Commercial Flying.
   - (*b*) The Aircraft Industry.
   - (*c*) International Convention for Air Navigation.

1. *Royal Canadian Air Force*

(*a*) *Organization and Training.*

The reorganization of the flying services undertaken during 1922 has been completed. The Civil Operations Branch has been amalgamated with the Canadian Air Force. The civil positions, in which its officers and men were employed, have been abolished and they have been granted commissions, or enlisted, in the Canadian Air Force. The Air Service is now wholly under Air Force Regulations, and its members employed on a uniform basis. The change has been brought about gradually during the nine months following June, 1922, and has been carried out, in so far as possible, without dislocating the work of any of the units affected.

The limited funds available for aviation during the financial year have prevented training being given on a large scale to non-permanent officers and men.

Training has, therefore, been confined to the personnel permanently employed in the Canadian Air Force.

During the winter months the work of overhauling the engines was concentrated at Camp Borden and the mechanical staff of the various units were sent there to undertake the work in the repair shops at the central depot. While at Camp Borden they have been given courses of instruction in their duties as members of the Royal Canadian Air Force, in addition to their ordinary work of overhauling the engines and equipment required for the conduct of flying operations.

A number of the mechanics on the stations employed in the past as Civil Servants, were over age or were medically unfit for service in the Royal Canadian Air Force. Others were unwilling to enlist in a permanent Air Force and have consequently been released. Some difficulty has been experienced in recruiting the right class of men for Air Force mechanics, but every effort is being made to obtain suitable men to fill the vacancies.

The enlistment of sufficient skilled mechanics with proper qualifications and experience for Air Force duties will always be a matter of some difficulty. Wages are high and employment easily obtainable in civil life for such men. This problem will have to be faced in the near future. The best solution will probably be found in the formation of a boys' training establishment where selected youths, of good education and antecedents, can be sent for a thorough grounding in Air Force duties. Such men, after passing through the training establishment and serving for a period in an active service squadron, could revert to civil life, at the expiration of their service, with the full assurance that their experience and training in the Air Force will ensure them ready employment in civil life at good wages. Industry in Canada would also benefit considerably by the addition, in a few years, of a steady stream of highly skilled and efficient mechanics from the Air Force. Civil Aviation, in the same way, would benefit by employing time expired men from the Air Force.

Arrangements have been completed with the University Authorities for the entry for Air Force training of a class for cadets in May, 1923. The course will be held at Camp Borden, the training station, and will consist of three terms, each of from approximately May 15 to September 1, during three consecutive years. To be eligible for selection it has been decided that the candidate must have the following qualifications:—

(*a*) A member of the Canadian Officers Training Corps who has performed the requisite qualifying service and passed the practical examination for certificate "A" C.O.T.C.
(*b*) Following a course of study as an undergraduate leading to a degree in Applied Science.
(*c*) Physically fit for Air Force Service as a pilot.
(*d*) Unmarried.
(*e*) Under 21 years of age at the commencement of the course.
(*f*) Recommended by the Military Committee of the University as likely to become an efficient Air Force Officer.
(*g*) Give an undertaking to complete the whole course.

Before attending the second term the candidate will be required to be in possession of certificate " A " C.O.T.C.

The status while under training will be as follows:—

During the period that candidates are in attendance at the Royal Canadian Air Force training station. they will be granted temporary commissions as provisional Pilot Officers, and will receive pay and allowances in accordance with

Pay and Allowance Regulations for the Canadian Air Force. The proposed rates are as follows:—

During the first term..	$3.00 per day
" " second term..	3.50 " "
" " third term..	4.00 " "

While under training the cadets will receive free quarters, rations, travelling allowance, a uniform, and medical and dental treatment.

On the completion of the course the cadets will be granted a Commission in the R.C.A.F. and will be eligible for:—

(a) Appointment as Pilot Officers in the Royal Canadian Air Force for permanent duty (the number of vacancies for such appointments will, in all probability, be very limited).
(*b*) Appointment as Pilot Officers in the Active non-permanent Royal Canadian Air Force.
(*c*) Transfer to the reserve of officers in which case they will not be liable for further service except in time of emergency.

The names of cadets will be received by the Military Committees of the various Universities and submitted through the Officers Commanding Military Districts, with recommendations as to their suitability for service. It is hoped that a large number of students from Canadian Universities will avail themselves of this opportunity and that the scheme of training will prove successful. It is felt that from no other source can be drawn a type of young officer more likely to give satisfactory service. Those for whom places in the Royal Canadian Air Force cannot be found, at the expiration of their training, will have lost no valuable time and will have gained much experience which will be of value to them in their engineering or scientific career.

The average strength return of the Royal Canadian Air Force for the quarter was 45 officers and 195 airmen.

The following statement shows the flying undertaken during the period under review.

JANUARY 1 TO MARCH 31, 1923

Station	Aeros or Seaplane	Flying period to date	Nature of Flights							Total Hours flown	Apprx. Miles flown	Average Flight Duration	Days on which Flying took place
			Regular training	Combined manoeuvres with other Forces	Photographic operations	Communication	Winter Flying Tests	Other operations	Total Flights				
		Days										H. M.	
T.D.S. Camp Borden	A	78	45	.....	.....	.....	4	.....	49	16.15	1,065	.19	21*
High River C.A.F. Unit	A	78	.....	.....	.....	.....	25	.....	25	17.00	1,190	.40	25*
Vancouver C.A.F. Unit	S	78	47	.....	1	.....	.....	14	62	52.56	3,176	.51	21*
Totals	....	234	92	.....	1	.....	29	14	136	86.11	5,431	.30	67

* No flying undertaken on Sundays.

Total Aeroplane mileage, 2,255. Seaplane Machine mileage, 3,176

(*b*) *Operations for Other Government Departments.*

Flying operations for other government departments during the winter season have not yet been developed to any extent. This work has been chiefly in connection with forestry, exploration and transportation in the remoter parts of the country and does not call for flying at all seasons of the year. The only patrols carried out during the winter season have been for the preventive services on the Pacific Coast in connection with the prevention of narcotic drug and liquor smuggling and illegal fishing.

The results of the flying done for other government departments during the season of 1922 have been under consideration and a programme of flying operations for 1923 has been drawn up and considered.

With a view to placing the relations between the Air Service and other government departments on a better basis, it was decided to form a permanent inter-departmental committee for the consideration of such work. The assent of the Deputy Ministers of the departments concerned was readily obtained and this committee held its first meeting on March 14, 1923. In addition to representatives of this Department, including the Deputy Minister, the Director of the Naval Service, the Deputy Chief of Staff, Director of Military Operations and Intelligence, the Director of Signals and the Director of the Canadian Air Force, the following branches of the Government Service were represented: The Director General of Surveys, the Topographical Surveys Branch, the Forestry Branch, the National Parks Branch, the International Boundary Commission, the Northwest Territories Branch, the Geodetic Survey Branch, the Service Bureau, the Water Powers Branch and the Dominion Observatory, all of the Department of Interior; the Department of Mines, Geological Survey Branch; the Department of Agriculture, Entomological Branch; the Department of Public Works, Chief Engineers' Branch; and the Department of Indian Affairs.

Proposals had been received in advance from the various branches interested, as to the work which would probably be required during 1923. These proposals had been considered by the Air Force staff and a tentative programme drawn up for discussion at the meeting. The amount of work which could be undertaken was limited by the number of machines available and the funds voted by Parliament for such work. As neither of these factors would permit of all the operations proposed being undertaken, a selection was made of those which were considered of most importance and which could be carried out most readily with the means available. After full discussion of all the proposals received, the committee finally adopted a programme, subject to further discussion of each item with the individual branches concerned, as follows:—

Vancouver, B.C.—

Forestry Branch—Fire patrols in Railway Belt	40 hours.
Water Powers Branch—Aerial photography	10 "
Operations for Customs, Fisheries, Department of Agriculture, etc.	25 "

High River, Alberta—

Forestry Branch—Fire patrol over Crow's Nest and Bow River reserves	700 "
Topographical Survey Branch—Photographic work on sectional maps between Edmonton and Calgary	50 "
Parks Branch—Occasional patrols in the Rocky Mountain Park	25 "
Reclamation Service—Photographic work on various rivers	20 "
Geodetic Survey—Transportation from Jasper Park to Jarvis Pass	20 "
Agriculture Department—Operations for combatting caterpillar pest in the Moose Mountain area	20 "

Winnipeg Air Station--

Regular fire patrols	700	"
Topographical Survey—Interprovincial Boundary and surveys in the northern part of the province	30	"
Dominion Water Power Branch—Aerial photography	30	"
Reclamation Service—Aerial photography	20	"
Department of Indian Affairs—Transportation of treaty money paying parties	35	"
Department of Mines—Transportation of survey parties and supplies		
In northern area	25	"
In eastern area	25	"

Ottawa Air Station—

Forestry Branch—Photographs of French river	20	"
Parks Branch—Reconnaissance in Gatineau and Lievre valleys	25	"
Water Power Branch—Photographic work on the Riviere des Prairies	10	"
Department of Agriculture—Experimental work on scattering poison dust from the air	10	"

The development of aerial photography has received careful attention during the period under review. Its application to surveying is a matter which, it is considered, can best be developed by the existing Survey Services. It was therefore decided to approach the Department of Interior with a view to making more definite arrangements to ensure steady development of this work. The following quotation from a letter, dated January 12, 1923, from the Deputy Minister of National Defence to the Deputy Minister of the Interior, clearly shows the position:—

"It is in regard to aerial photography that closer control appears necessary. At present we are receiving requests from many services for work of this kind, each Branch with a different purpose in view. The experience gained during the past season has shown that much of the information in an aerial picture may be useful for mapping purposes provided that the pictures are taken under proper conditions. The Topographical Survey Branch has, I understand, done some very interesting work along this line and are making further inquiries into the subject which may have far reaching results. This being the case, may I suggest that this branch act in an advisory and consulting capacity in regard to aerial photography in the future, and be considered as the central authority on this branch of the work. If all approved photographic operations were considered by one branch and that branch empowered to study the practical application of aerial photography in this country, it would, I am certain, result in the speedy development of the science; economy in operations through saving of overlapping and duplication of work; and, in addition, make all pictures available for mapping purposes for whatever service they were taken."

On January 30, a reply was received to this proposal as follows:—

"You first suggest that the Topographical Surveys Branch, which has given special attention to the utilization of aerial photographs for mapping purposes should act in an advisory and consulting capacity in regard to aerial photography in the future. The Topographical Surveys Branch will be glad to co-operate with the Air Force in that connection and to give every possible assistance."

Arrangements have been made to carry out the decision reached and the closest co-operation now exists in this work between the Topographical Surveys Branch and the Air Force. The actual taking of the pictures and their development and printing rests wholly with the Air Service, while the technical work of examining the results and devising means for using them for mapping purposes is a matter within the province of the Topographical Surveys Branch. In the preparation of the programme for 1923, that branch is co-operating with our officers in drafting the operation orders for all photographic work, with a view to obtaining the best possible results for each branch requiring work of this nature and ensuring that the pictures taken will give the results required from a scientific point of view and not merely be "pretty pictures."

The Topographical Surveys Branch are also advising the Air Service in regard to the types of camera which should be employed, the length of the lens, the altitude, inclination and direction of the pictures, the use of special films and plates, light filters, etc. Dr. Deville, Director General of Surveys, is taking a personal interest in this work and the thanks of the Department are due to him and his officers for much valuable assistance.

(c) Equipment and Technical Services.

The reorganization of the technical and equipment establishments commenced in 1922 was completed by the end of the financial year. The contract and purchasing duties have been transferred to the branch of the Director of Contracts and consolidated with the other similar work of the military and naval services. The storekeeping staff at headquarters and on all the stations has been transferred from civil to an Air Force basis and the same course has been followed in regard to the technical and designing staffs. All the employees both at headquarters and on the stations have been granted commissions or enlisted in the Royal Canadian Air Force.

The work of installing store accounting systems and procedures on the lines of those in force in the Royal Air Force has been finished. The Canadian service now functions in the same way as the Royal Air Force, so that if ever units of the two forces are called out to work together, no confusion will result. A complete stock taking has been made on all stations of stores on hand. This has been done by a board consisting of a representative of the Accounts Branch, Stores Branch and the station storekeeper. The stores audit will, in future, be done by the Stores Audit Section of the Department, in common with the other storekeeping branches of the Department. The preparation of demands for, and the supply of, the material necessary for the coming season's operations have been undertaken.

The Technical Section has been engaged on the details of the design of the modifications necessary to transform the " Avro " training machine into a single float seaplane, fitted with a Wolseley " Viper " engine. This machine is intended for trial as a light patrol machine for forest fire detection. The intention is to use the single-seater light machine for the daily patrols and only to bring the heavier passenger-carrying types into action when the transportation of men and supplies is necessary.

Research has been continued on the operation of aero engines at low temperatures and winter flying tests have been carried out at High River Air Station, with very satisfactory results. The design of special mounts for aerial cameras has also been taken in hand, as the existing mounts are not satisfactory for their purpose. Numerous other details in regard to apparatus required for flying operations have also been considered.

(d) Expenditure

STATEMENT OF APPROPRIATIONS AND EXPENDITURE FOR FISCAL YEAR 1922–23

Appropriations	$ cts.	Expenditure	$ cts.
Vote 552	5,000 00	Capital	162,708 83
Vote 298	1,000,000 00	Research and experiment	7,500 00
Revenue from operations on repayment basis	61,596 88	R.C.A.F. pay	505,230 92
		R.C.A.F. allowances	68,439 09
		Civil wages	33,541 10
		Travelling expenses	37,579 89
		Grants for C.A.F. Associations	11,141 88
		Equipment	152,916 59
		General account	87,521 91
		Unexpended	16 67
	1,066,596 88		1,066,596 88

2. *Civil Aviation*

(*a*) *Commercial Flying.*—There is little to report in regard to commercial flying during the period under review. Commercial companies are busy making plans for the operating season of 1923 and overhauling their machines. Statistics and information regarding the work done during 1922 have already been published in the Air Board Report for that year and need not be repeated here. There is every prospect that 1923 will show considerable increase in the amount of useful commercial flying done in the country. Companies are securing more aircraft for their work and are extending their operations very considerably. The Department, in pursuance of its policy to encourage commercial aviation in every way, has notified the Provincial Governments that they are prepared to relinquish to commercial companies or provincial services, the experimental operations, undertaken on repayment during the past three seasons with a view to showing the benefits which can be obtained by the use of aircraft in connection with forestry. It is expected that this work in the Provinces of Ontario and Quebec may be taken over by commercial firms during the coming season. Neither funds nor equipment are available at present to undertake all the work required by the various Departments of the Dominion Government. It is very desirable, therefore, that the Provinces should arrange independently for the carrying out of all operations under their jurisdiction.

In British Columbia, the situation is somewhat different. There is as yet no commercial firm well established on the Pacific Coast. The Dominion Government has much work which can be done to good advantage by aircraft and must maintain a Station there in any event. It may therefore be found desirable to continue operations for the Provincial Government on a repayment basis on the Pacific Coast if they so desire.

It is gratifying to report a very considerable increase in the interest shown by commercial firms in the operation of aircraft on a business basis with forestry work, and also in aerial photography. This latter work will undoubtedly increase rapidly with the perfection of photographic methods. In the United States a large and increasing business is growing up rapidly and the demand for the time being exceeds the facilities of the operating companies.

There will be in Canada, it is safe to say, a wide field for commercial aviation in a very few years. The day has not yet arrived in this country when aircraft can be used economically for the transportation of mail and passengers over regular routes in competition with the railways and steamships. An opening exists, however, as an auxiliary to such services where the conditions do not justify large capital expenditures, but fast and reliable methods of transportation are required. The establishment of regular air service routes will probably follow the successful running of such services in countries where the physical conditions are easier and the traffic greater.

(*b*) *The Aircraft Industry.*

It is gratifying to note that contracts for the construction of aircraft in Canada have been let during the period under review and that the aircraft industry in this country has again been revived, after a lapse of four years. Tenders were called in the Fall of 1922 for the construction of eight amphibian type flying boats. The specifications called for a machine carrying a pilot and the equivalent of four passengers, at a cruising speed of 80 miles per hour, with a range of six hours' flying at a cruising speed and a working ceiling of not less than 12,000 feet. Tenders were received from various firms in Canada, Great Britain and the United States. Two of these complied with the stipulation that machines constructed in Canada would receive preference. After consideration of the various tenders received, it was decided to accept, as being the most suitable, that of Messrs. Canadian Vickers Ltd., of Montreal, for the construction in

Canada of six machines and delivery of two others of the same type from the factories of their English firm. The acceptance of two British-built machines was decided on, as the preparations for building machines in Canada would take time and it was desired to obtain two of the machines at the earliest possible date. The contract was, accordingly, let on this basis and work is now progressing in Montreal on the construction of the machines.

It is hoped that the aircraft industry will now become a permanent one in this country. The advantages of having the machines used in Canada built here are self evident.

(c) *International Convention for Air Navigation.*

The third meeting of the International Commission for Air Navigation was held on the 28th of February, 1923, in Brussels. Belgium, the British Empire, France, Japan, Portugal, the kingdom of the Serbs, Croats and Slovenes, were represented. Wing Commander J. S. Scott, R.C.A.F., attended with the British delegation. Numerous matters in connection with international flying were considered, including an application from Canada for a derogation from the terms of the International Convention in respect of flying between the United States and Canada. The following memoranda presented to the Commission in support of this application shows the position:—

In the present stage of the development of aeronautics Canada is only concerned with inter-state flying in so far as it affects the United States. The boundary between the two countries is over 3,000 miles long; business and social relations between the two countries are close; conditions are similar on both sides of the border and international communications fully developed. The importance to both countries of having a mutually satisfactory agreement regarding inter-state traffic is great. With the growth of aviation, inter-state traffic by aircraft will undoubtedly become of great importance.

The United States was a signatory to the original Convention, but so far has not ratified it and is, therefore, not a contracting party within the terms of the Convention. The question is further complicated by the fact that the United States has not yet passed any legislation creating a body to deal with aeronautics. No federal laws have yet been passed regulating air traffic or granting authority to register aircraft or the personnel engaged in aerial navigation.

Notwithstanding this, aviation in the United States is growing rapidly and an increasing number of American pilots and aircraft desire to cross into Canada and fly in Canadian territory.

To deal with this situation the Air Board of Canada passed an amendment to the Air Regulations Canada on May 17, 1920, in the following terms:—

(*a*) That pending the organization of a body in the United States of America having authority to issue civil certificates to air personnel and until the 1st of November, 1921, qualified American military pilots be excepted from the provision of paragraph 33 of the Air Regulations, 1920, so far as is necessary to put them in the same position with regard to flying in Canada as if they were the holders of certificates from the Government of the United States, that is, in the same position of being entitled to fly United States aircraft in Canada but not to carry passengers or goods for hire, and

(*b*) That pending the organization in the United States of a body having authority to issue Registration Certificates for Aircraft and until the first day of November, 1921, aircraft which would under the Convention relating to International Air Navigation be registerable in the United States of America, be excepted from the provisions of paragraph 3 of the Air Regulations, 1920, provided that:—

(*a*) Full particulars of the aircraft are furnished.
(*b*) The aircraft is marked in accordance with the Regulation with a nationality and registration mark of which the first letter is the letter "N" and the second letter is the letter "C".
(*c*) If such aircraft is one which under the Regulations would require a certificate of airworthiness, a temporary certificate of airworthiness is issued;
(*d*) In all cases the same fees are paid as in the case of Canadian aircraft.

The Controller of Civil Aviation is to be authorized to administer this exception to the Regulations.

The effect of these regulations is to place aircraft and pilots of United States nationality in the same position as they would have been had that country enacted similar regulations

to those existing in Canada. When an American machine or pilot wishes to cross the International Boundary and fly in Canada, it is necessary that the Canadian authorities should be advised in advance of the proposed flight, with particulars of the route it is proposed to follow; the purpose of the flight; the date; the owner's name and address; the pilot's name and qualifications and the type of aircraft it is proposed to use. Should the aircraft be of a type not already recognized as airworthy and fall within the category of commercial aircraft, an investigation of its design is made. If it is found to comply with the standards approved in Canada in all essentials, a type certificate is issued. If, on the other hand, it is below the standard called for in Canadian machines, permission is refused for it to fly in Canada. For private aircraft no certificate of airworthiness is necessary and no responsibility is taken for the design of the machine.

The clause limiting the permission to "Military pilots" was inserted because there was no authority other than the Military (including Naval) Air Services who could grant pilot's certificates. The great majority of American pilots had served in one or other of the services during the war and had passed through an Army or Naval School of Aviation. Exceptions have been made on one or two occasions in favour of pilots without either military or naval training. In such cases proof must be given that the pilot is experienced and has the necessary qualifications to enable him to take a pilot's certificate in Canada.

Registration marks as called for in the Convention, are insisted on for all machines flying in Canadian territory.

Commercial operations of any nature are prohibited within Canada by United States machines, but they may carry goods or passengers from a point in the United States to a point in Canada and vice versa.

The provisions of Part 10, Air Regulations Canada, 1920, in regard to reporting to the Customs authorities when entering and leaving Canada are strictly enforced. Owing to the fact that there are so few licensed Customs air harbours in the country it has not always been possible to enforce regulation 96 calling for an initial and final landing at a Customs Harbour. Arrangements have been made when necessary to have the Customs authorities at the nearest port of entry on the border make the necessary entries.

Until legislation is passed in the United States creating a body to deal with air navigation it will not be possible to arrange mutually for a regular convention between the two countries, and until this is done the present arrangements with modifications, as necessary, will be adhered to. The original agreement expired on November 1, 1920, and has been extended at the request of the United States Government from time to time. The present agreement expires on the 1st of May, 1923.

The Commission decided to recommend, to the contracting states, the grant of the derogation asked for. Reports of the sub-committees on the technical annexes to the Commission were considered and progress made in many lines of work. The question of the voting power of the various States represented on the Commission was also considered. Proposals from the Belgian and French Governments had been received for amendments to the International Convention, altering the voting basis of the States represented. A decision in regard to these was postponed to the next meeting, to be held in London in June. Uniform certificates for pilots, engineers and navigators and certificates of airworthiness of aircraft were submitted by the sub-committee in charge of this work and adopted. The Government of Italy notified its ratification of the Convention on the 13th of March, 1923.

REPORT OF THE ADJUTANT-GENERAL

On March 31, 1922, the date of the last annual report of the Department of Militia and Defence, the Adjutant-General's Branch consisted of the following Directorates, each being subdivided into a number of sections to facilitate the distribution and performance of its various duties:—

The Directorate of Organization and Personal Services.
The Directorate of Medical Services.
The Directorate of the Judge-Advocate-General.
The Directorate of Records.
The Directorate of Pay Services.

On the 1st January, 1923, "The National Defence Act, 1922," came into force, and among the changes thereby effected, the Directorate of the Judge-Advocate-General ceased to form part of the Adjutant-General's Branch, and became responsible to the Deputy Minister. The Adjutant-General's Branch, therefore, now consists of the remaining four Directorates, as indicated above. The Directorate of Pay Services is a part of the Adjutant-General's Branch so far as administrative and disciplinary matters are concerned, but is under the Deputy Minister for financial matters generally.

The reports of the Directorates of Organization and Personal Services, Medical Services and Records follow; the report of the Director of Pay Services is on page 82.

Directorate of Organization and Personal Services

I. Organization

Permanent Active Militia

In effecting a reduction of 350 Other Ranks in the strength of the Permanent Force, No. 4 Company, R.C.G.A., and the Royal Canadian Machine Gun Brigade ceased to be maintained as active units.

The Band of the Royal Canadian Garrison Artillery has been transferred to the Royal 22nd Regiment.

The Royal Canadian Engineers which corps previously consisted of Nos. 1 and 2 Fortress Companies and Supernumerary Establishment is now composed of 13 detachments, as under, with a total peace establishment of 48 Officers and 360 Other Ranks:—

No. 1	Detachment	R.C.E.,	London, Ont.
No. 2	"	"	Toronto, Ont.
No. 3	"	"	Kingston, Ont.
No. 4	"	"	Montreal, P.Q.
No. 5	"	"	Quebec, P.Q.
No. 6	"	"	Halifax, N.S.
No. 7	"	"	St. John, N.B.
No. 8	"	"	Petawawa.
No. 9	"	"	Ottawa.
No. 10	"	"	Winnipeg, Man.
No. 11	"	"	Esquimalt, B.C.
No. 12	"	"	Regina, Sask.
No. 13	"	"	Calgary, Alta.

A new peace establishment providing for 6 Officers and 57 Other Ranks has been authorized for The Royal Canadian Corps of Signals.

One company in The Royal Canadian Regiment, one company in the Princess Patricia's Canadian Light Infantry, and one platoon in the Royal 22nd Regiment have been organized as machine gun units.

The Canadian Warfare School has been re-designated " The Canadian Small Arms School."

The following table shows the authorized establishments and limited establishments, in personnel, of units of the Permanent Force.

The strengths of the respective units are restricted to the numbers laid down in the Limited Establishments.

PERMANENT FORCE

Units	Authorized Establishment			Limited Establishment			Actual Strength		
	Officers	Other Ranks	Total	Officers	Other Ranks	Total	Officers	Other Ranks	Total
Royal Canadian Dragoons	28	516	544	20	265	285	18	257	275
Lord Strathcona's Horse (R.C.)	28	495	523	21	207	228	18	187	205
Royal Canadian Artillery	65	1,000	1,065	65	643	708	59	604	663
Royal Canadian Engineers	48	360	408	38	249	287	33	214	247
Royal Canadian Corps of Signals	6	57	63	6	57	63	6	53	59
Royal Canadian Regiment	36	924	960	36	442	478	29	405	434
Princess Patricia's Canadian Light Infantry	29	690	719	29	271	300	28	251	279
Royal 22nd Regiment	14	422	436	14	187	201	13	182	195
Royal Canadian Machine Gun Brigade	47	480	527	13	.....	13	12	.....	12
Royal Canadian Army Service Corps	33	412	445	26	239	265	27	227	254
Royal Canadian Army Medical Corps	43	101	144	30	80	110	29	77	106
Royal Canadian Ordnance Corps	32	700	732	31	423	454	33	415	448
Royal Canadian Army Veterinary Corps	7	23	30	7	7	14	6	7	13
Royal Canadian Army Pay Corps	40	100	140	26	71	97	19	67	86
Corps of Military Staff Clerks	32	199	231	8	189	197	8	187	195
Canadian Small Arms School	3	2	5	3	2	5	2	2	4
Totals	491	6,481	6,972	373	3,332	3,705	340	3,135	3,475

NOTE.—Officers seconded from their units and not paid from the Permanent Force Vote are not included in the above table.

Non-Permanent Active Militia

The following changes in organization have been effected:—

Cavalry.—The 2nd Regiment (13th C.M.R. Bn. C.E.F.) The Alberta Mounted Rifles is now attached to the 5th Mounted Brigade.

Artillery.—The organization of the following units, which upon reorganization of the Artillery was held in abeyance, has now been authorized—

Headquarters, 20th Brigade, C.F.A., at Edmonton, Alta.
22nd Battery, C.F.A., at Gleichen, Alta.
The 54th Battery, C.F.A., Brantford, Ont., has been attached to the 8th Brigade C.F.A.

Engineers.—The engineer units in Military Districts Nos. 4, 5 and 11, which previously were un-numbered, have now been designated as follows:—

Military District No. 4—
16th Field Company, C.E.
5th Field Troop, C.E.
Military District No. 5—
6th Field Troop, C.E.
Military District No. 11—
17th Fortress Company, C.E.

Signals.—The 5th and 6th Signal Battalions, Canadian Corps of Signals, have now been reconstituted as under:—

5th Signal Battalion—
Headquarters (a), Quebec, P.Q.
No. 5 Signal Company, Quebec, P.Q.
No. 20 Signal Company (a), Quebec, P.Q.
4th Signal Troop, Quebec, P.Q.
(a) Organized only to the extent of posting of Officers.

6th Signal Battalion—
Headquarters, St. John, N.B.
No. 6 Signal Company, St. John, N.B.
No. 8 Signal Company, Charlottetown, P.E.I.
No. 7 Fortress Signal Company, Halifax, N.S.

The organization of No. 21 Signal Company, C.C. of S., at Vancouver, B.C., has been authorized.

Infantry.—Units have been redesignated as follows:—

Old designation	*New designation*
The Ottawa Regt. (The Duke of Cornwall's Own)	The Ottawa Highlanders.
The Hull Regiment.	Le Regiment de Hull.
The Northumberland (New Brunswick) Regiment.	The North Shore (N.B.) Regiment.

The infantry brigades in Military District No. 6 have been reconstituted as under—

16th Infantry Brigade—
(Furnished from M.D. No. 7).
17th Infantry Brigade—
1st Bn. (219th Bn. C.E.F.) The Lunenburg Regiment.
1st Bn. (112th Bn. C.E.F.) The Annapolis Regiment.
1st Bn. (25th Bn. C.E.F.) The Colchester and Hants Regiment (attached).
1st Bn. (40th Bn. C.E.F.) The Halifax Rifles.
1st Bn. (64th Bn. C.E.F.) The Princess Louise Fusiliers.

18th Infantry Brigade—
1st Bn. (17th Bn. C.E.F.) The Pictou Highlanders.
1st Bn. (193rd Bn. C.E.F.) The Cumberland Regiment.
1st Bn. (85th Bn. C.E.F.) The Cape Breton Highlanders.
1st Bn. (105th Bn. C.E.F.) The Prince Edward Island Regiment.

Canadian Machine Gun Corps.—The 5th Machine Gun Brigade with headquarters at Quebec, P.Q., has been reorganized and for the present consists of a headquarters and 2 companies with a total establishment of 28 Officers and 304 Other Ranks.

The provision for a band in the peace establishment of a Machine Gun Brigade has been cancelled.

Canadian Army Service Corps.—Reserve divisional trains (one for each corresponding active unit) have been authorized.

Canadian Army Medical Corps.—The organization of No. 8 Field Ambulance at Calgary, Alta, which upon the reorganization of the Canadian Army Medical Corps was held in abeyance, has now been authorized.

Canadian Postal Corps.—The Canadian Postal Corps has been increased from 11 to 12 Detachments in order to provide a further detachment in Military District No. 2 with an establishment of 1 Officer and 4 Other Ranks.

Canadian Railway Corps.—Authority has been given for the Canadian Railway Corps to consist of the following units.

The organization of these units is at present restricted to the posting of officers.

A Headquarters and Train Crew Corps.
Operating Corps.
Construction and Maintenance Corps.
Traffic Sections.
Workshops.
Breakdown Gangs.
Stores Corps.
Railway Survey and Reconnaissance Units.

Amounting in all, if and when authorised to be raised, to 363 Officers and 10,424 Other Ranks.

Canadian Officers Training Corps.—The Laval University Contingent, C.O.T.C., Quebec, P.Q., has been reorganized and consists of one company with an establishment of 6 Officers and 120 Other Ranks.

The organization of a Contingent C.O.T.C., consisting of one company, at the University of Bishop's College, Lennoxville, P.Q., has been authorized.

Alliances.—The Toronto Scottish Regiment is now allied to the 14th (City of London) Battalion, The London Regiment (London Scottish).

Peace Establishments

The Peace Establishments of the Non-Permanent Active Militia promulgated in General Orders were made effective for the fiscal year 1922-23.

A peace establishment providing for 4 Officers and 71 Other Ranks has been approved for the 17th Fortress Company C.E., at Esquimalt.

Localization

The localization of the respective units of the Non-Permanent Active Militia, upon reorganization, which in each case is published in General Orders, has been completed.

Recruiting

Four hundred and sixty-nine enlistments for the Permanent Active Militia have been permitted to fill vacancies which have occurred from time to time within the Limited Establishments.

Owing to the reduction in establishments there have been 977 discharges during the year under report.

The following statements are submitted: —

"A"—Strength by Corps of the Permanent Force as of 31-3-23.
"B"—Strength of the Permanent Force by stations as of 31-3-23.
"C"—Statement of Officers.
"D"—Statement of enlistments and discharges in the Permanent Force for the year ending 31st March, 1923.

"A"—STRENGTH BY CORPS OF THE PERMANENT FORCE AS OF 31-3-23

Corps	Officers	Other Ranks	Total
Permanent Staff Officers on N.D.H.Q. and District Headquarters	26	.....	26
Royal Canadian Dragoons	20	257	277
Lord Strathcona's Horse (R.C.)	18	187	205
Royal Canadian Horse Artillery / Royal Canadian Garrison Artillery	66	604	670
Royal Canadian Engineers	41	214	255
Royal Canadian Corps of Signals	6	53	59
Royal Canadian Regiment	38	405	443
P.P.C.L.I.	34	251	285
Royal 22nd Regiment	16	182	198
Royal Canadian Machine Gun Brigade	15	.....	15
Royal Canadian Army Service Corps	28	227	255
Royal Canadian Army Medical Corps	31	77	108
Royal Canadian Ordnance Corps	35	415	450
Royal Canadian Army Veterinary Corps	6	7	13
Royal Canadian Army Pay Corps	21	67	88
Corps of Military Staff Clerks	9	187	196
Canadian Small Arms School	2	2	4
Cadet Officers (Specially employed)	7	.....	7
Total	* 419	3,135	3,554

*Includes 79 Officers, Seconded Officers, specially employed, etc., who are *not* paid from Permanent Force Vote.

"B"—STRENGTH OF THE PERMANENT FORCE BY STATIONS, AS OF 31-3-23

Stations	Officers	Other Ranks	Total
London	23	192	215
Toronto	46	357	403
Camp Borden	2	30	32
Kingston	41	322	363
R.M.C. Kingston	12	49	61
Ottawa	63	266	329
Montreal	18	138	156
St. Jean, Que	9	113	122
Quebec	30	276	306
Halifax	48	472	520
St. John, N.B	8	45	53
Winnipeg	58	444	502
Victoria	10	26	36
Esquimalt	23	229	252
Regina	9	42	51
Calgary	19	134	153
Total	*419	3,135	3,554

*Includes 79 Officers, Seconded Officers, specially employed, etc., who are *not* paid from P. F. Vote.

"C"—OFFICERS

Military District	Strength, 1-4-22	Strength, 31-3-23	Increase	Decrease
N.D.H.Q.	67	63	.....	4
R.M.C	12	12		
1	23	23		
2	56	48	.....	8
3	32	41	9	
4	28	27	.....	1
5	37	30	.....	7
6	52	48	.....	4
7	9	8	.....	1
10	48	58	10	.....
11	38	33	.....	5
12	8	9	1	
13	22	19	.....	3
Total	432	419	20	33

Net Decrease 13

"D"—STATEMENT OF ENLISTMENTS AND DISCHARGES IN THE PERMANENT FORCE FOR THE YEAR ENDING MARCH 31, 1923

Military District No.	Enlistments	Discharges
N.D.H.Q.	41	43
1	14	64
2	70	185
3	53	77
4	38	63
5	47	95
6	19	105
7	1	8
10	110	162
11	23	83
12	5	15
13	48	77
Total	469	977

Discipline

The discipine of the Troops during the year has been good.

Dress

Amendments to the Dress Regulations have been passed in Orders, from time to time, for both the Permanent and Non-Permanent Active Militia. Action is now being taken to revise the Dress Regulations.

Regimental Badges and Crests

A large number of Badges and Crests has been authorized for Units of the Permanent and Non-Permanent Active Militia.

Officers' Messes

Officers' Messes of the Permanent and Non-Permanent Active Militia are in good Standing, and the Reports on such Messes are excellent.

Ceremonial

Arrangements for the supply of Guards of Honour and Escorts, were made on the following occasions:—

Prorogation of the First Session of the Fourteenth Parliament of Canada, June 27, 1922.

Opening of the Second Session of the Fourteenth Parliament of Canada, January 31, 1923.

Drawing Room held by His Excellency the Governor General on February 3, 1923.

Military Funerals

All matters concerning Military Funerals have been dealt with by this Directorate.

Dental Services

Dental treatment has been rendered to members of the Permanent Active Militia under the direction of this Directorate.

Essential urgent treatment has also been given to members of the Non-Permanent Active Militia, whilst attending Annual Training.

Canadian Expeditionary Force

Personal questions regarding ex-members of the C.E.F. are still received occasionally, and are dealt with at Defence Headquarters.

Absentees from the C.E.F. report from time to time, chiefly with a view to obtaining gratuity, etc., but as payment of War Service Gratuities in such cases has now been stopped it is anticipated very few further cases will be reported.

EXTRACTS FROM REPORT ON THE ROYAL MILITARY COLLEGE OF CANADA

STRENGTH

There was, during the year, an average strength at the College of 150 gentlemen cadets.

One cadet of the 2nd Class was discharged at his parents' request owing to sickness; three cadets of the 3rd Class and four cadets of the 4th Class were

discharged at their parents' request, whilst three cadets of the 4th Class had to leave on account of ill health. Casualties totalled eleven.

Sixty-seven candidates sent in their names for consideration by the Board of Selection under the new entrance examination regulations. Of these, fifty-five candidates were selected as eligible.

DISCIPLINE

With one or two exceptions, which were dealt with, the discipline has been excellent during the past year.

The Cadet Battalion Commander, Company and Platoon Officers and Section Commanders and other N.C.O.'s. have carried out the administration and discipline of their Units in a praiseworthy manner.

HEALTH

During the past year, the health of the gentlemen cadets has been very good. No deaths have occurred.

An outbreak of influenza of unusual severity occurred early in February. In all, 125 cases were treated in the College Hospital. The large messroom and reading rooms were improvized as additional wards and five special nurses were employed. The outbreak lasted about four weeks, and although many of the gentlemen cadets were quite ill, no cases of pneumonia developed.

252 gentlemen cadets were admitted to Hospital during the year; 469 gentlemen cadets attended Hospital for treatment.

R.M.C. CALENDAR

The R.M.C. Calendar is now an accomplished fact. Copies have been sent to a large number of Schools and Universities. The Calendar contains complete information with regard to the College, together with a number of photographs, which, owing to the quality of the paper used, are not perhaps as clear as they might be. Since, however, it is likely that changes will be made in the Calendar from time to time, it is necessary that economy should be practiced, particularly when it is considered that every parent who thinks of sending his son to the College naturally wishes to peruse a copy of it.

BUILDINGS

The buildings are in a sanitary condition and in good state of repair, and the kitchen and utensils are clean and well polished.

With the increased facilities of the new buildings, including Chemical and Mechanical Laboratories, Modern Science Hall, Lecture Amphitheatres, etc., it is felt that the civil education obtained here in four years is equal in every respect to three years' education in Science at a University.

The old Naval Gymnasium has been reappropriated as a Draughting Room, and is filling a long felt want at the College.

A new covered way connecting the New Educational Building and the Administrative Building was erected on the top floor, and, being greatly used by classes and individuals passing from one building to the other, saves much time.

At Fort Frederick, the basement and ground floor of which have been utilized for the College Museum, much work has been done. A new galvanized iron roof has been laid on the Tower and extensive pointing to the masonry has been carried out. Much more pointing is necessary, however, to preserve this very interesting old fortification.

A large flagstaff has been erected at the point of the centre battery, Fort Frederick, rising to 110 feet above the ground level, and visible for many miles. It is additionally interesting since it marks the junction of Lake Ontario, the River St. Lawrence, and the Cataraqui River.

The Lunette outside Fort Frederick has been thoroughly overhauled and repaired and will be used as a General Staff Museum, thus filling a useful purpose.

Many improvements have been made in the grounds. Extensive levelling and grading has been carried out at the Riding School, whilst the grounds in the vicinty of Fort Frederick have been beautified by placing shrubs and lawns at advantageous points, and the construction of flower beds, from the Inner Enclosure to the Outer. The grounds at the back of the Educational Building are especially attractive.

The new Science Laboratory was wired in iron conduit for electricity, and a new gasoline plant was also installed for the use of this Department. Electric wiring was installed at No. 2 Officers' Quarters, Barriefield.

A gasoline lawn mower has been purchased for use on the College grounds and it is hoped this will much improve the appearance of the grass surfaces.

Before the close of this year, it is anticipated that the Ex-Cadets Memorial Arch will have been erected at the entrance to the College. The Corner Stone will, it is expected, be laid during the closing Exercises this year.

TRAINING

This subject was thoroughly gone into by the Advisory Board during their annual visit, and their general remarks are available in their Report for this year. A detailed report was submitted by the Commandant, which, upon examination, is considered to be adequate and satisfactory.

STAFF

The death of Captain H. F. Bray, R.C.H.A., Riding Master, R.M.C., is very much regretted. He was a fine gallant officer with soldierly presence, instincts and training; thoroughly efficient as Riding Master in all its Branches, a strict disciplinarian, yet withal a kindly officer who obtained ready cheerful obedience from his associates. His sudden death came as a great shock and grief to all ranks, by whom he was liked and admired.

Professor H. J. Dawson, M.A., C.M.G., D.S.O., has been appointed Director of Studies, vice Professor Martin,, who retired to pension at his own request after over 32 years of efficient service at this Institution.

Major A. V. Tremaine, R.C.A., has been appointed Professor of Artillery, vice Lieut.-Colonel C. F. Constantine, D.S.O., who now commands the R.C.H.A.

Major G. R. Turner, M.C., D.C.M., R.C.E., has been appointed Instructor in Military Engineering, vice Captain G. N. Dickinson, transferred to Halifax.

Captain W. J. Finney, O.B.E., R.C.A., Instructor in Artillery, has taken over the Riding Establishment and the work of Riding Master.

Owing to the necessity for dividing the classes into smaller sections, the Department of French is to be increased by one Instructor.

ATTACHED OFFICERS

The second post-bellum Preparatory Course for candidates for the Staff College commenced October 2, 1922, and came to an end February 26, 1923, the day preceding that set for the commencement of the Staff College examinations. In this period of 148 days there were 102 working days. Seven officers

attended this course and the work was so arranged that that taken up before Christmas was the work most suitable for the officers of the Refresher Course.

The Refresher Course, which was attended by eight officers of the Permanent Force, commenced on the same day as the Preparatory Course and ran concurrently with it until December 21, when it came to an end. In this period of 81 days there were 61 working days.

The Instruction, consisting of lectures, indoor and outdoor exercises and conferences, followed generally along the lines of last year's course. Again this year each student of both courses prepared and delivered a lecture on some subject of military interest, thus getting practice in research work, compilation of notes, and in delivery of a lecture.

Lectures were again delivered by officers from National Defence Headquarters and were again found of value. It is hoped that at each course it will be possible to have similar lectures delivered.

MILITIA STAFF COURSE

The Militia Staff Course, having been revived during the past year for officers of the Non-Permanent Active Militia, a new scheme was introduced whereby lecture notes for all the lectures of the course were prepared by the General Staff Officer at the College and distributed in bulk to the headquarters of the various Districts for the use of the candidates.

In addition, sample examination papers in Map Reading and Field Sketching, Strategy and Military History, Organization and Administration and Training for War (2 papers) were prepared and distributed. Thus a total of 51 papers, averaging more than five type-written sheets each, were distributed.

The papers for the examinations, held in April, were also prepared under the direction of the General Staff Officer.

Many requests for copies of the prepared lecture notes, for the use of officers other than candidates of the Militia Staff Course, were received and the notes sent out, so that it is felt that this new system of preparation of notes should be of considerable value to the Militia generally.

CUPS AND TROPHIES

In the 2nd Annual Competition between the Military Colleges in the Empire for the General Lafferty Cup, the Royal Military College of Canada was again unsuccessful, the Institution at Sandhurst winning first place.

To commemorate the first athletic contest between the Royal Military College of Canada and the United States Military Academy, the gentlemen cadets decided to present a silver trophy to the American institution, which will also be used if possible in any future matches between the two Colleges, though it will be retained always at West Point.

GIFTS

The Royal Military College of Canada was honoured during the year by the receipt of a beautiful statuette from the French Government, entitled "Pax" in bisque de Sevres, in recognition of the record of ex-Cadets during the War. This statuette was unveiled during the visit of the Advisory Board by the Consul General of France.

BUSINESS AND PROFESSIONAL LECTURES

Through the kindness of several prominent citizens of Kingston, some interesting lectures were given to the gentlemen cadets, following the custom inaugurated last year.

SPORTS

The past year has been a most successful one with regard to the Cadets' sporting activities.

II. Personal Services

During the fiscal year under report, much has been accomplished towards the completion of appointments of officer personnel to the various cadres laid down for units of the Active Militia and very few of the authorized establishments now remain without the necessary re-organized personnel. Nearly all Regiments of Cavalry, Brigades of Artillery, Engineer Units, Canadian Officers Training Corps, Machine Gun Brigades, Battalions of Infantry, Cyclist Companies, as well as units of the several Departmental services have now the necessary complement of officers, with the additional supernumeraries allowed in excess of the authorized establishment. Units of the Canadian Corps of Signals are not quite so complete for the reason that it is more difficult to obtain the required number of officers with the necessary technical qualifications and endeavours are being made to have them selected from ex-university students, who have taken the science courses (electric and radio), which, to a great extent, form the foundation for their further military education in this branch of the service.

However, the establishments are gradually being filled by young officers of the desirable type. The officer personnel of units of the Canadian Army Service Corps, Canadian Army Medical Corps, and the Canadian Army Dental Corps are well up to strength, and in addition, carry large reserves of well qualified officers with war service experience.

Appointments to the re-organized Canadian Army Veterinary Corps are well advanced and the necessary officers of this service have been attached for duty to mounted units throughout the Dominion.

The Canadian Corps of School Cadet Instructors has been completely re-organized and carries on its strength some 300 well qualified and efficient officers for this service, all of whom are actively engaged in the instruction of Cadet Corps.

The organization of the Canadian Corps of Chaplains was completed during the past year, and officers of the Corps detailed for attachment to units of the Active Militia, as provided for in the establishments.

Units of the Non-Permanent Active Militia Organized and Reorganized for the Period 1-4-22 to 31-3-23

Cavalry—

3rd The Prince of Wales Canadian Dragoons.
2nd Regt. The Alberta Mounted Rifles.

Artillery—

54th Battery, C.F.A.
11th Brigade, Ammunition Column.

Engineers—

Headquarters, 4th Divisional Engineers.
Headquarters, 11th Divisional Engineers.
11th Field Company.
1st Field Troop.
2nd Field Troop.
6th Field Troop.

Corps of Guides—

No. 2 Cyclist Company.
No. 7 Cyclist Company.

C.O.T.C.—

Western University Contingent.
University of Bishop's College Contingent.

Infantry—

The Lincoln Regiment.
The Lanark and Renfrew Regiment.
The Annapolis Regiment.
The Algonquin Rifles.
The York Rangers.
The Manitoba Rangers.

Reserve Battalions—

*2nd, 3rd and 4th Battalions, The Dufferin Rifles of Canada.
2nd Battalion, The Argyll Light Infantry.
2nd Battalion, The Cape Breton Highlanders.
*2nd Battalion, Le Regiment de Quebec.
6th Battalion, 1st British Columbia Regiment.
2nd Battalion, The Seaforth Highlanders of Canada.
*2nd Battalion, The Peel and Dufferin Regiment.
2nd Battalion, The Cameron Highlanders of Canada.
2nd Battalion, Le Regiment de Beauce.
2nd Battalion, Les Chasseurs Canadiens.

*Partly organized.

Medicals—

No. 7 Stationary Hospital.
No. 8 Stationary Hospital.
No. 11 Stationary Hospital.
Nos. 1, 3, 4, 5, 6, 8, 9 and 10 Sanitary Sections.
No. 3 Motor Ambulance Convoy.

Signals—

Headquarters, 5th Signal Battalion.
Headquarters, 6th Signal Battalion.
No. 20 Signal Company.
No. 21 Signal Company.

C.A.S.C.—

Headquarters, 4th Divisional Train.
Headquarters, 11th Divisional Train.

Number of Appointments to Non-Permanent Active Militia Units

The following is a statement showing the number of Officers (including provisional appointments) appointed to the Active Militia (Non-Permanent) during the 12 months ending March 31, 1923.

Cavalry	153
Artillery	73
Engineers	23
Canadian Corps of Signals	46
Corps of Guides	10
Canadian Officers' Training Corps	40
Infantry	611
Canadian Machine Gun Corps	67
Canadian Army Service Corps	9
Canadian Army Medical Corps	78
Nursing Sisters, C.A.M.C.	43
Canadian Army Dental Corps	10
Canadian Army Veterinary Corps	10
Canadian Postal Corps	0
Canadian Ordnance Corps (Non-Permanent)	1
Corps of School Cadet Instructors	41
Canadian Militia (General List)	5
Temporary Appointments (General List)	21
Canadian Chaplain Service	21
Reserve of Officers	2,966
Total	4,228

The provision of officer personnel for Reserve units is now receiving attention and in a number of cases, progress has been made towards the appointment of such officers, who are selected chiefly from those formerly carried on the Corps Reserves.

The establishments of officers for Reserve units are equivalent to the Active cadres, and appointments have been made to 23 Reserve Battalions of Infantry as well as to those of the smaller units.

Action is being taken to expedite completion of as many of these units as possible during the current year, and thus absorb all of the former Corps Reserves.

Owing to the large number of officers who held a more senior rank in the Canadian Expeditionary Force than could be provided for them in the existing Peace establishments of re-organized units, it was considered advisable to reduce the tenure of command of officers commanding units from 5 to 3 years, with the possible extension of one year, if recommended to be in the interests of the service, and so afford those with valuable active service experience a more rapid opportunity of succeeding to the command of their respective corps.

It is the opinion that this reduction in the tenure of command will stimulate interest among the more junior officers, who may aspire to become Commanding Officers, and in addition there is the advantage of opening the way for their advancement while well within the age limit for military service.

In the course of the past year, the number of changes in the command of non-permanent formations were as follows:—

Brigade Commanders of Cavalry, Artillery and Infantry Brigades	16
Officers Commanding Regiments of Cavalry and Battalions of Infantry	44
Officers Commanding, Divisional Engineers	2
" " Signal Battalions	2
" " Divisional Trains, C.A.S.C.	3
" " General and Stationary Hospitals	3
" " Reserve Battalions	8
Total	78

Extension to tenures of command for a period of one year were given in 14 cases.

Document Commissions

The number of document commissions authorized for issue during the period under review was 1,447, of which number some 500 have yet to be prepared, the work having been delayed owing to the lack of necessary documents, the supply having become exhausted.

Document Warrants

Sixty-six document warrants were authorized for issue on promotion of warrant officers (class 2) and non-commissioned officers to warrant rank (class 1) throughout units of the Permanent and Non-Permanent Active Militia during the year.

Resignations and Retirements

Permanent Force

The officer personnel of units of the Canadian Permanent Force continued to receive necessary adjustment during the year and a total of 22 officers, made up as follows, either resigned their permanent appointment or were retired to pension:—

Royal Canadian Artillery	2
Royal Canadian Engineers	2
The Royal Canadian Regiment	2
Princess Patricia's Canadian Light Infantry	1
Royal Canadian Machine Gun Brigade	1
Royal Canadian Army Service Corps	7
Royal Canadian Army Veterinary Corps	1
Royal Canadian Ordnance Corps	1
Canadian Small Arms School	1
Not borne on Regimental Establishment	2
Cadet Services	2
Total	22

Canadian Militia List

Copy matter for a revised edition of the Canadian Militia List was completed and forwarded to the Printers on the 19th January, but its completion for issue was delayed owing to other printing matter having to be given precedence in production during the Parliamentary session.

In addition to general seniority lists and much other information this book contains all the revised lists of officer personnel of the reorganized Active Militia by units, corrected to the 31st December, 1922.

Generally every effort has been made to administer satisfactorily and effectively the officer personnel of Active Militia units both Permanent and Non-Permanent with the necessary co-operation of District Commanders, who are responsible for the submission of recommendations regarding any changes necessary in the units within their respective commands, and who certify that such are according to regulations and authorized establishments, prior to verification and compilation for the Canada Gazette at National Defence Headquarters.

Directorate of Medical Services

Royal Canadian Army Medical Corps

During the fiscal year ending the 31st March, 1923, the medical administration of the Canadian Air Force was taken over by this Directorate. On the 1st July, 1922, the retiring director of the medical service, C.A.F., turned over his technical office equipment and records to the D.G.M.S., and

at the same time the medical stores and hospital at Camp Borden were placed under the Militia medical authorities of Military District No. 2, Toronto. The medical officer at Camp Borden was retained on duty as no R.C.A.M.C. officer was available as a relief. The existing medical arrangements whereby the other rank personnel was provided by the Canadian Air Force were continued until March 29th, 1923, when authority was given to enlist three privates in No. 2 Detachment, R.C.A.M.C., for duty at Camp Borden. The hospital, now run as a dieted military hospital, and the medical detachment, are under the administration of the District Medical Officer. During the winter, there was considerable sickness among the troops in this camp, due mostly to a mild outbreak of influenza. At this time the hospital accommodation was found to be inadequate and an officer from the staff of this Directorate made a thorough inspection of the whole situation, and as a result of his report, steps have been taken to secure other quarters for hospital purposes and to provide personnel from the R.C.A.M.C. Medical examination of pilots and recruits for the C.A.F. is now carried out by R.C.A.M.C. officers of the different military districts and, at points where these are not available, C.A.M.C. officers are employed. Special arrangements have been made for the medical care of the personnel on duty at High River, Alberta. By the purchase of hospital tickets, the privileges extended to the local ratepayers have been secured for members of the C.A.F. and Permanent Force.

The general medical administration of the Royal Canadian Navy was also taken over during this period. At Esquimalt, the medical work, including the care of stores, etc., was taken over by the R.C.A.M.C. officers at this station and the District Medical Officer, Military District No. 11, was made responsible for administration. In Halifax, the naval medical officer on duty has not as yet been placed under the orders of the D.M.O., who, however, has been made responsible for the medical arrangements for the personnel of the navy at this station, all patients being admitted to the military hospital. Considerable extra work in connection with the medical examination of men of the R.C.N.V.R. has become necessary in all districts.

As in the previous year, the training of the R.C.A.M.C. personnel has been carried out to a limited degree owing to the reduced establishments in many of the districts. In stations where hospitals are in operation, there were the usual courses of instruction and examinations held. Opportunity was given to permanent and non-permanent medical officers to prepare themselves for promotion examinations and twenty-four of them took advantage of this opportunity.

In Military District No. 1, London, the detention hospital was opened on the 1st August, 1922, as a dieted hospital with a 24-bed capacity. At Kingston, Military District No. 3, on the 14th October, 1922, the detention hospital was put on a dieted basis with accommodation for 20 patients. In all districts with the exception of 7, 12 and 13, dieted military hospitals are now in operation. Authority has been granted to enlist sufficient personnel in the R.C.A.M.C. to replace those men attached for hospital duties from other units in the Garrison. This increase in establishments affected districts as follows: M.D. 2 (Borden), 3 other ranks; M.D. 3, Kingston, 3 other ranks; M.D. 4, St. John's, P.Q., 1 other ranks; M.D. 5, Quebec, 2 other ranks; M.D. 11, Victoria, 2 other ranks.

Canadian Army Medical Corps

The reorganization of the C.A.M.C. non-permanent, and the appointment of officers and nursing sisters to the different units continued satisfactorily throughout the year. With a few exceptions medical units have now fairly

complete complements of officers, and nearly all combatant units have had medical officers attached. To date the following appointments have been made: To medical units, 455 medical officers, 38 quartermasters and 127 nursing sisters; to the Corps Reserve of the medical units, 44 medical officers and 5 quartermasters; attached to non-medical units, 202 medical officers; 15 officers on the regimental medical lists have been retained with their units.

During the year considerably more training among medical units of the non-permanent Active Militia was carried out. Three Field Ambulances and 1 Casualty Clearing Station trained in camp, while 3 Cavalry Field Ambulances and 8 Field Ambulances trained at local headquarters. At Niagara, No. 2 Casualty Clearing Station was in charge at the camp hospital whilst Nos. 5 and 19 Field Ambulances trained in field exercises. In M.D. No. 1, No. 15 Field Ambulance trained in camp at London, Ontario. In all camps of instruction where sufficient R.C.A.M.C. personnel was not available for work in connection with training and hospitalization, the employment of small detachments from non-permanent medical units was authorized. The health of the troops in camps was good; very little sickness was reported and no cases of infectious disease occurred.

The long-expected closing of the Manitoba Military Hospital, a C.E.F. unit, was finally accomplished on the 31st October, 1922. The D.S.C.R. took over and made arrangements for the further care and treatment of the 40 overseas patients still in hospital. The extra medical personnel on duty on a C.E.F. basis was demobilized. This personnel consisted of 3 Medical Officers, 1 Adjutant, 1 Quartermaster, 4 Nursing Sisters, and 22 other ranks. On the closing of the M.M.H. a station hospital for the district with a capacity of 40 beds was opened and is now in charge of R.C.A.M.C. personnel.

The health of the troops of the permanent force during the year has been generally good and with the exception of an outbreak of diptheria in Fort Osborne Barracks, Winnipeg, in February, no epidemics of infectious disease occurred. The source of infection of the outbreak in Winnipeg was reported to have been from fresh greens in salads. A few soldiers' dependents also contracted this disease. By liberal inoculations with antidiptheric serum and by prompt action in the matter of isolation and sanitary precautions generally the disease was stamped out and no deaths occurred. All danger from the epidemic was reported over by the 3rd March.

An influenza outbreak of unusual severity occurred at the Royal Military College, Kingston. In all, 125 cases were treated in the college hospital and large mess and reading rooms temporarily taken over as hospital wards. To insure proper care and efficient nursing, five Nursing Sisters of the non-permanent Active Militia were employed. The outbreak lasted for about four weeks and although many of the Gentlemen Cadets were quite ill no cases of pneumonia developed.

During the period April 1st, 1922, to March 31st, 1923, there were 2,583 patients treated; this number is made up as follows:—

Permanent Force	1,791
Royal Military College	252
Canadian Navy	114
Royal Navy	2
United States Navy	2
Canadian Air Force	113
Active Militia (non-permanent)	127
Civilians	182

Canadian Air Force personnel were treated under the Department of Militia and Defence from July 1, 1922.

Among the permanent force personnel there were 15 deaths during the year, as follows:—

Septicaemia	2
Pneumonia, double	1
T.B. Lungs	1
Carcinoma of Pancreas	1
Carcinoma of Stomach	1
Delusional Insanity	1
Myocarditis	1
Aneurism	1
Appendicitis	1
Duodenal Ulcer	1
Nephritis	2
Diabetes	1
Fracture Skull	1
Total	15

Percentage of deaths to total treated ·58.

There were 1,614 medical boards held throughout the different districts and at Militia Headquarters.

Medical Stores

During the fiscal year ending March 31st, 1923, there were 378 shipments received in Central Medical Stores, Ottawa. In the same period there were 504 issues made, 390 to District Medical Stores, Camps and Dispensaries, and 114 sales to the public and transfers to other Government Departments. Under Purchasing Commission Special Minute No. 10686 sales to the amount of $891.33 were made; under Purchasing Commission Special Minutes sales to the amount of $831.65; transfer without payment to the amount of $7,844.07. These sales consisted of drugs, tablets, dressings, surgical instruments, remedial treatment equipment, electrical medical equipment, sterilizers, laboratory equipment, X-ray equipment, etc., etc. The incoming shipments totalled 157, consisting of 302 packages weighing 16,106 pounds. There were 103 outgoing shipments by freight, consisting of 338 packages weighing 36,719 pounds, and 57 shipments of 79 packages by express weighing 3,629 pounds. During the year the field equipment in Central Medical Stores, which totals 50 per cent of the whole amount for the Dominion, was carefully checked, replenished, and repaired where necessary. Perishable supplies such as rubber goods and drugs, according to the usual custom, have not been kept in the reserve equipment and only the panniers, etc., which are for use in camps of instruction are completely fitted up. In addition to the large amount of work performed by the mechanic, kept for the purpose, in connection with repairs of iron bindings, fittings, etc., for field medical equipment returned from overseas and elsewhere, repairs have been made to instruments from District Medical Stores and to the large amount of surplus equipment sold. A qualified druggist is now on the strength of the stores detachment, thus making it possible to manufacture many preparations which would otherwise have to be purchased from the trade at a considerably higher price; a saving of 100 to 150 per cent on certain lines has therefore been possible.

Canadian Army Medical Museum

I. *Preparation of Pathological Specimens:*

1. Mounting, sealing, stencilling and repairing: During the past year the services of the Technician, J. Giroux, were employed by the Government during seven months (April 1st to October 1st, 1922, and February, 1923) on a part

time basis of $25 monthly for one-fifth of his working time, the balance of his salary being paid by McGill University. During this time, in addition to his general activities in the changing of fluids and other details, incident to the upkeep of the collection, assisting in photography, etc., he sealed and stencilled seventeen specimens mounted in square jars, and mounted 20 additional specimens which now await sealing, and repaired eight other specimens requiring this.

2. Photography: Twenty-one moist specimens, constituting the balance of those in the pathological Collection were photographed. In addition five specimens of kidneys, recently sent out from England, were photographed for the Section of Renal Medicine and seven micro-photographs of kidneys were made for the same purpose.

II. *Exhibits:* Four Exhibits were held, by authority of the Director General of Medical Services.

1. At the fifteenth annual meeting of the American and Canadian Section of the International Association of Medical Museums held at Washington, D.C., on May 1st, 1922, in conjunction with the annual meeting of the Congress of American Physicians and Surgeons. This was an important exhibition representative of all the various sections of the Descriptive Catalogue. It was in charge of the Acting Curator of the C.A.M. Museum and the Director General of Medical Services of Canada was represented at it personally by Col. A. E. Snell, C.M.G., D.S.O.

2. The Interurban Surgical Association meeting at the Montreal General Hospital on June 9th, 1922. This was a small exhibit limited to the Bone Collection made by Major L. J. Rhea, but was greatly appreciated.

3. At the annual meeting of the Alberta Medical Association presented by Col. A. T. Bazin.

4. At the Sixteenth annual meeting of the American and Canadian Section of the International Association of Medical Museums held at Boston, Mass., on March 29, 1923. This was in conjunction with a representative Exhibit presented from the Army Medical Museum by authority of the Surgeon General of the United States Army. A resolution of appreciation was passed by the Association.

III. *Loan of Specimens*: On October 14, at the request of Dean of the University of Alberta, fifty-eight specimens were loaned to that Institution to assist in the teaching of Pathology during the Session of 1922-23 and also for the purpose of exhibition at local Medical Societies in that Province.

IV. *Conferences on the Canadian Army Medical Museum Descriptive Catalogue*—Conferences upon the Editorial work of the Catalogue were held:—

1. On June 2nd, 1922, an informal Conference was held at Toronto, between the Editor-in-Chief, and the Managing Editor, at which the entire material of the various sections was reviewed, the contents and the order of the volumes were considered and the number of volumes reduced to five, and sample portions of the different sections were edited for the information of the various Subject Editors.

2. On October 31st, 1922, at the office of the Director General of the Medical Service, Ottawa, a conference was held of the Executive Committee of the Editorial Board, namely the Director General of the Medical Service and members of his staff, the Editor-in-Chief and the Managing Editor. The material from all the sections was submitted in such form that an estimate for the printing of the entire five volumes could be obtained. Appropriations were made to cover the various accounts that had fallen due and grants that were justified, and the printers were formally interviewed. The Managing Editor remained

two days longer in Ottawa for the discussion of the necessary details. As a result of this Conference an estimate was obtained from the Superintendent of Printing of $13,000 for an edition of 1,000 copies or $15,000 for two thousand copies of the five illustrated volumes.

3. On March 14th, 1923, a Conference of the above named Executive Committee was held at the Pathological Museum, McGill University, Montreal (the D.G.M.S. being represented by Col. A. E. Snell) followed by a meeting of all the members of the Editorial Board and Subject Editors of the Catalogue resident in Montreal. Reports were received from the various Sections, those actually completed and ready for printing were declared closed, and final action was taken or recommended on the remainder. At the close of these meetings, an informal interview took place between the D.G.M.S. representative and the Principal of the University and certain representatives of the Medical Faculty of McGill University upon arrangements for the custodianship of the Collection during the time that it remains under the care of McGill University.

V. *Progress of Descriptive Catalogue*:

1. Sections completed: Field Sanitation; Wound Irrigation; Blood Transfusion; Renal Medicine; Orthopaedic Surgery; Facial Surgery; Traumatic Lesions of the Fundus Oculi; War Injuries of Ear, Nose and Throat;

2. Sections progressing to immediate completion: War Lesions of Soft Tissues; Diseases and Injuries of Bone; Chest Disorders; X-Rays of War Injuries.

3. In course of Preparation: Cardio-Vascular Diseases; War Surgery of the Chest.

Col. G. Goldsmith, C.B.E., represented the C.A.M.C. at the annual meeting of the Association of Military Surgeons of the United States held at Washington, D.C., in October, 1922. His paper (some notes on the management of the common complaints of the eye, ear, nose and throat of the troops on Active Service; with consideration to the relationship which should exist between the Specialist and the Medical Officer) was very well received, and appeared in the " American Surgeon " of April, 1923; it has since been published in pamphlet form.

The general history of the Medical Service during the war, by Sir Andrew McPhail, Kt., O.B.E., B.A., M.D., C.M., LL.D., has now been completed and is ready for the printer.

A short history of the work of the Medical Service with the Canadian Corps during the last 100 days of the Great War, dealing with this period from an administrative and tactical standpoint, has been completed and is now with the printer. It is expected that this book will be shortly available for training and qualifying purposes.

Directorate of the Judge Advocate-General

Forty-nine District courts-martial were held in Canada during the fiscal year ending 31st March, 1923, there being no General courts-martial. This is a decrease of twenty-five compared with the preceding year. Generally speaking, the convictions were not for serious offences, and the sentences awarded were comparatively light. This, together with the decrease in the number of courts-martial, indicates a substantial improvement in discipline.

The proceedings which had to be returned for the correction of technical irregularities, or for quashing the finding and sentence were few compared with the preceding year, indicating a substantial improvement in the administration of military law, and that the officers concerned had acquired a greater knowledge of the Army Act, the Rules of Procedure and the King's Regulations.

The Army Act and the Rules of Procedure were further amended during the year under review, resulting in the simplification of the procedure.

The number of Courts of Enquiry held throughout Canada on various matters which were referred to the Judge Advocate-General for opinion exceeded the number in the preceding year. In a number of instances, these Courts were of such a nature that it would have been of great assistance to the District concerned had there been available in the District an officer possessing a certain amount of legal training.

The number of leases and agreements which were prepared in the office of the Judge Advocate-General was, approximately, the same as in the preceding year.

The duties of the Judge Advocate-General have been materially increased by the creation of the Department of National Defence. Numerous matters have been referred to him by the Naval Service and the Air Board.

Upon the reorganization of the Royal Canadian Air Force, it was considered advisable that the procedure which should be followed, in so far as concerns the Regulations applicable to it, and the administration of Air Force law, should be along the same lines as that followed in the case of the Permanent Active Militia and the Royal Air Force. The Judge Advocate-General was accordingly instructed to take the necessary action, the preliminary work in connection therewith being completed by the end of the year under review.

On the coming into force on the 1st January, 1923, of "The National Defence Act, 1922," the Judge Advocate-General's office ceased to be a Directorate in the Branch of the Adjutant-General, and became responsible to the Deputy Minister, thereby following, as far as practicable, the organization in the War Office.

Owing to the increase in his duties, it was considered desirable that an officer of the Permanent Active Militia should be detailed to assist the Judge Advocate-General during that period in the year when the duties of his office were heavy. It was considered that it would be to the advantage generally of the Permanent Active Militia if officers of the Permanent Active Militia were detailed for this duty for four months each year, thereby not only assisting the Judge Advocate-General, but also acquiring a greater knowledge of military law procedure and the regulations, which would be of great value to them in the districts in which they are stationed when their tour of duty in the Judge Advocate-General's office ended.

The Judge Advocate-General is also a member of the Pensions and Claims Board, administering the Militia Pensions Act. Certain legislation affecting pensions was prepared in his office, together with numerous opinions and memoranda arising out of matters concerning pensions.

Directorate of Records

The Directorate of Records is, for administrative purposes, divided into three sections, and the duties and output of the different sections for the period under review are as follows:—

Honours and Awards

As was to be expected, the total output of this section decreased considerably, the only increase being in the issue of British War Medals. War medals have been despatched in all cases where an application card has been received and application cards have been forwarded to the last known address of those for whom medals are yet in stock.

Memorial Plaques and Scrolls have been forwarded in every case where the address of the recipient was available. During the year it was necessary to requisition 1,134 additional Memorial Plaques and Scrolls in respect of ex-soldiers who died after discharge and whose deaths were attributable to service.

Memorial crosses have been despatched to the mothers and widows of deceased soldiers in all cases where addresses were available. Approximately 500 crosses were issued in respect of ex-soldiers who died after discharge and whose deaths were attributable to service. It is particularly gratifying to note the large number of letters received expressing appreciation of this Memorial which, of all the awards and memorials issued, is the only one that is strictly Canadian, both in conception and manufacture.

The total despatch of awards during the year is:—

War Service Badges	1,280
King's Certificates on Discharge	145
Medals and Decorations	116
1914-15 Stars	1,140
Canadian medals	269
Memorial Crosses	1,160
Memorial Scrolls	2,689
Memorial Plaques	16,278
British War Medals	159,303
Allied Victory Medals	137,674
Mention in Despatches	162
Oak Leaf Emblems	321
Miscellaneous	368
	320,905
Medal pro-formas despatched	1,320
Awards replaced	87

Estates and Correspondence

In its care for the relatives of deceased soldiers and ex-soldiers, the Estates Section of the Directorate lends such assistance as is possible in winding up the estates, not only of those soldiers who died while on strength of the C.E.F., but also of those soldiers who died subsequent to discharge, as well as estates of deceased members of the re-constituted Permanent Force.

Under authority of special Orders in Council, this section collects monies from banks and employers and distributes them in the same manner as pay and allowances, thus saving the heirs the expense of employing a solicitor.

To avoid overlapping, the Department of S.C.R. hand over all estates of personnel who died on their strength, to this Directorate for distribution.

During the fiscal year, a total of 790 estates was received and money to the amount of $134,446.71 was collected. In the same period, 644 estates were distributed involving a total out-payment of $117,686.30.

On March 31st, 1923, 1,453 ledger sheets were open, showing a total credit of $239,862.14, included in which was the sum of $29,760.04 in 271 special trust accounts, bearing interest at 5 per cent for infant children of deceased soldiers. These trust monies are paid out to the various beneficiaries as and when they reach years of discretion.

Documents Section

This Section, for administrative purposes, is divided into five sub-sections, and the work carried out by each is briefly as follows:—

(*a*) *Research and Verification.*—The work of this subsection consists of the research and verification necessitated by the numerous verbal, telegraphic

and written enquiries regarding ex-members of the C.E.F. received from the general public, as well as various Government Departments and branches, particularly the Department of Soldiers' Civil Re-establishment, the Board of Pension Commissioners, and the Separation Allowance Branch of this Department. In addition, there are the researches necessary to establish eligibility for medals and awards, King's Certificates on Discharge, Memorial Crosses, etc.

This subsection also has charge of the compilation of special statistical rolls in connection with war memorials for churches, universities, clubs and societies. During the period under review, 206,597 researches have been completed, 10,950 Records of Service and 20,960 Certificates of Service issued. Memorial rolls were completed for 4 universities, 22 societies and 8 clubs. 41,909 sets of documents have been perused and completed for Hollerith purposes by this section.

(*b*) *Filing.*—All regimental documents of personnel of the C.E.F., South African Contingents and Active Militia who subsequently became C.E.F., are in the custody of this subsection, and its duties consist of the withdrawal and despatch of these documents as required by authorized officials. The filing of all papers, miscellaneous forms and documents relating to ex-members of the C.E.F., as well as the withdrawal and refiling of pay ledger sheets relating to C.E.F. service comes under this subsection. At present, there are in custody 8,761 South African records, approximately 5,000 Active Militia records, and 594,580 individual C.E.F. records which are all contained in 1,560 steel cabinets. During the year, 561,440 documents were withdrawn for official purposes and refiled, 19,844 miscellaneous documents relating to C.E.F. service were filed, and 9,698 pay ledger sheets were withdrawn and refiled.

(*c*) *Statistics.*—This subsection has charge of the Hollerith System of mechanical accounting for the compilation of statistics of a regimental and medical nature. The work, up to the present time, has consisted of the extraction of information from the documents of individual soldiers and placing such information on extract cards. This information is then coded on punch cards which, in turn, are put through the Hollerith machines. During the past year, 52,056 regimental and 258,155 medical cards have been punched, making a total to the end of the fiscal year of 775,391 regimental and 610,565 medical cards. The following are some of the statistics which will be available:—

(i) Analysis of each service unit, which includes rank, previous service, disposition on discharge, final casualties, birth place, place of enlistment, occupation, religion, honours and awards, period of service, etc.

(ii) Analysis of each original unit, covering the same fields as in Service Unit analysis.

(iii) Number of soldiers who left Canada, by units, by months.

(iv) Number of Canadian soldiers who proceeded to each theatre of war, tabulated by months.

(v) Medical Statistics. It will be possible to give a detailed analysis of wounds, diseases, etc., the nature of the wounds and different operations found necessary with regard to wounds. It will also be possible to give certain diseases in relation to places of enlistment or birth place, i.e., the number of tubercular cases from any particular province, etc.

(*d*) *Graves Registration.*—This subsection is primarily responsible for the collection and maintenance of a complete record of the circumstances of death and burial of all Canadian soldiers. It assists the Imperial War Graves Com-

mission in gathering data to enable the Commission to erect headstones and other memorials to deceased Canadian personnel, irrespective of the country in which their graves may be located, and further, maintains records of graves of ex-members of H.M. Naval and Military Forces situated in Canada and the United States. The work has now reached a concrete state, the only casualties received being those of ex-members of the Forces dying in Canada and the United States. During the fiscal year, this section, working in close co-operation with the Commission's Secretary-General in Ottawa, has been responsible for the erection of 1,788 headstones over graves in Canada and the United States, and the collection of data for the erection of others. After thorough verification, 8,820 questionnaire forms in respect of graves overseas have been transmitted during the year to the next of kin for completion and return to the Commission.

Now that the work of permanently marking the graves has progressed to a great extent, Cemetery Registers which have been compiled by the Imperial War Graves Commission are being forwarded, together with a most suitable memorial card from the Honourable the Minister, to the relatives of the deceased Canadian personnel through the agency of this section—3,515 such registers having, to date, been despatched.

(*e*) *Registry.*—The C.E.F. Registry is made up of consolidated overseas registries and includes registries of several Canadian offices, i.e., S.A. & A.P. and District Headquarter files, National Defence Headquarter "other rank" files, and Canadian estates files. The work of Registry Section is to supply all document files for individuals of the C.E.F. and subject files of all overseas business or transactions in connection with the late war.

Files at present in this Registry are as follows:—

Received from Headquarters Central Registry	460,000
Received from S.A. & A.P. Districts and London Pay Office	1,175,000
Received from Canadian Estates Branch and London Estates	140,000
Received from Assigned Pay Audit	25,000
	1,800,000
Received from overseas direct	1,241,883
Estimated total	3,041,883
Estimate of all files not yet consolidated	350,000
Custody parcels held to be acted on	3,500
Records of Centres held	250

This subsection is called upon to produce records in connection with the financial adjustments of all claims emanating from overseas. The necessary work in this regard is becoming more intricate owing to lapse of time.

Demand for files of personnel of the Overseas Military Forces of Canada by the different departments, has decreased somewhat during the year, but an active demand still exists from the D.S.C.R. and B.P.C. The following is a report of files handled during the period under review:—

Files charged and passed	157,405
Checked in, off charge, examined and put away	468,081
Files drawn for research purposes	20,550
Files created and combined	53,508

4. It is worthy of note that the total expenditure for the Directorate for the past fiscal year has been reduced by $264,792.42, as shown by the following financial report.

DIRECTORATE OF RECORDS

The total running expense of the Directorate for the financial year 1921–22 was	$777,922 01
The total running expense of the Directorate for the financial year 1922–23 was	513,129 59
A decrease in expenditure of	$264,792 42

—	1921–22	1922–23	Increase	Decrease	Remarks	Increase	Decrease
Personnel	661,974 63	386,743 07		275,231 56	Pay and allowance, Officers and other ranks		33,097 55
					Clothing and equipment	1,286 25	
					Pay and bonus, civilian staff		243,420 26
Operating expenses	57,856 28	43,204 69		14,651 59	Stationery		2,340 30
					Telegrams and telephones		86 83
					Typewriter repairs		35 97
					Sundry postage		12,188 49
Building and Plant	58,091 10	83,181 83	25,090 73		Heating	289 68	
					Rent	12,426 00	
					Light	360 00	
					Repairs and alterations		157 82
					Cleaning and sundries	2,724 54	
					Depreciation	9,448 33	
	777,922 01	513,129 59	25,090 73	289,883 15		26,534 80	291,327 22
Decrease		264,792 42		264,792 42			264,792 42

AVERAGE EXPENDITURE PER DIEM

	1921–22	1922–23
	$ cts.	$ cts.
Personnel	1,813 63	1,059 57
Operating expenses	158 51	118 36
Building and Plant	159 15	227 90
	2,131 29	1,405 83

REPORT OF THE QUARTERMASTER GENERAL

General.—In May, 1922, the office of the Master-General of the Ordnance was abolished and the Engineer Services and all questions relating to Supply of Ordnance material were taken over by the Quartermaster-General.

This Branch is now divided into the following Directorates:—

1. Supplies and Transport.
2. Equipment and Ordnance Services.
3. Engineer Services.

The report of each service is submitted.

(1) Directorate of Supplies and Transport

This Directorate includes all services in connection with the Army Service Corps, Veterinary and Postal Corps, including:—

Feeding and housing of troops and horses.
Rental of buildings (in conjunction with Department of Public Works).
Heating and Lighting of buildings.
Dieting of hospital patients.
Transportation by land and sea (ocean, rail and mechanical road transport).
Horse transport and the provision of publicly owned horses.
Veterinary services.
Telephone services.

Retrenchment has been continued and it is considered that all services are now at their minimum strength, having due regard to efficiency.

Reduction of R.C.A.S. Corps.—In July, 1922, owing to the reduction of the Permanent Force Vote, the R.C.A.S.C. was forcibly reduced by nine officers and ninety-three other ranks. As a result the Corps had to be reorganized and where there were formerly eleven Depots and one Detachment, there are now four Depots and eight Detachments. These Depots are maintained for training the Permanent and non-Permanent Army Service Corps in Army Service Corps procedure, and to perform the full Corps duties at their stations. The detachments are responsible for all administrations and accounting, but are numerically too small to handle supplies which are at these stations, now delivered directly from contractors to units.

Supplies for Troops and Horses (Permanent and Non-Permanent Active Militia).—During the fiscal year covered by this report, 1,117 contracts for various supplies and services were made by the Contracts Branch at the request of this Branch. The following supplies were issued:—

Food rations	673,719
Hospital Diets	39,693
Rations of Forage	238,538

The food and forage provided by the contractors was of an excellent quality, and only on one or two occasions were complaints made, which were speedily remedied to the entire satisfaction of all concerned.

The cost to the Government of food and forage has continued in its downward trend, as the following comparison of the cost per man, per day, for the past three years will show:—

March, 1921	Food, $0.47423	Forage, $ 0.4763
March, 1922	Food, 0.33418	Forage, 0.37132
March, 1923	Food, 0.31265	Forage, 0.30092

Accommodation.—Publicly owned barracks and armouries are, with few exceptions, fully occupied. The only exceptions are armouries at small outlying points, where the localization of units has not been considered justifiable. When necessary, and where no publicly owned buildings are available, accommodation has been rented through the Department of Public Works, as far as funds would permit.

Permanent Force.—The remarks contained in the report of the last fiscal year with regard to Permanent Force accommodation are still applicable. The prediction that the temporary wooden buildings constructed during the war, which continued to be occupied as Permanent Force quarters, were liable to rapid deterioration and loss by fire has, during the past year, been borne out. The greater portion of the group comprising the Rosedale Hutments, Toronto, and a number of the buildings comprising the Tecumseh Barracks, London, have been destroyed by fire. The balance of the Tecumseh group has been condemned for further use owing to an infection of dry rot.

Lighting and Heating of Buildings.—The supply of fuel for the heating of buildings has been a very important question during the past year due to the scarcity of anthracite coal and the excessive prices quoted for this quality. As far as possible, bituminous coal has been used, but, owing to the fact that the heating plants and chimneys are, with few exceptions, unsuitable for the consumption of this kind of fuel, great difficulty has been experienced in obtaining satisfactory results. A number of minor fires have occurred as a direct result of the use of bituminous coal. Instructions have been promulgated from time to time with a view to educating the caretakers and firemen in the proper mode of using this coal, resulting in noticeable improvement.

The supply of light to all buildings has been satisfactory and economical.

Transportation by Ocean and Rail.—Demands for ocean transportation are now almost entirely confined to personnel attending Schools of Instruction, proceeding to and returning from England, although there are still a few Imperial details being repatriated to Canada. A number of accounts covering the passages of troops which have been outstanding since the Great War have been investigated and passed for payment.

Rail transport in Canada has been reduced to a minimum, and in keeping with the limited funds at disposal for this purpose.

In connection with the transport of Units and parties to and from Annual Training Camps, the railways have given satisfaction.

Mechanical Transport.—On the 1st April, 1922, there were on hand the following Mechanical Transport vehicles:—

Motor cars	20
Trucks	10
Light Delivery Trucks and Omnibuses	23
Ambulances	21
Motor Cycles	7
Total	81

During the past Fiscal Year the following vehicles were acquired:—

Trucks, Heavy	1
" Light Delivery	4
Motor Cars	1
Total	6

Of the trucks, four were purchased at a cost of $6,973.50 and one was transferred from the Canadian Air Force without charge. The motor car was transferred from the Canadian Air Force at no expense.

During the period of this report, the following vehicles were disposed of:—

Motor-cars	2
Trucks, Heavy	4
" Light Delivery	3
Ambulances	1
Motor-cycles	2
Total	12

The vehicles now in use throughout Canada are as follows:—

Motor-cars	19
Trucks, Heavy	7
" Light Delivery and Omnibuses	24
Ambulances	20
Motor-cycles	5
Total	75

There was a net reduction of 6 vehicles during the year. The majority of these vehicles, having been purchased in the early days of the war, are much depreciated.

Horse Strength, Permanent Active Militia.—On April 1st, 1922, the total number of horses in the Permanent Service (Cavalry, Artillery, Infantry, Army Service Corps and other Units), was 718, of which number 63 were cast and sold, 32 died or were destroyed.

Additional horses were acquired as follows:—

By purchase	131

The present strength is 754 horses, allocated as shown in the following statement:—

R.C.D.	165
L.S.H. (R.C.)	144
R.M.C.	49
R.C.H.A.	222
R.C.A. (M.A. and C.A.)	37
R.C.R.	20
P.P.C.L.I.	13
Royal 22nd Regt.	9
R.C.E.	29
R.C.A.S.C.	62
R.C.A.M.C.	3
R.C.O.C.	1
Total	754

Cartage was, for the most part, carried out by R.C.A.S.C. Horse and Mechanical Transport, but, in all Districts, contracts were made with civilian carters to supplement the above, when necessary.

Veterinary Service.—This branch of the Service is below the minimum strength consistent with the proper supervision of the care and health of the horses.

Telephones.—The number of telephones used by the Permanent and Non-Permanent Active Militia and Permanent Services throughout Canada, and the cost of upkeep, has been kept at a minimum. The cost per annum for all services is now approximately $15,750.

Barrack Services.—This service is responsible for the proper conduct of all duties in connection with the receipt, custody, issue and accounting for fuel, light, water, palliasse straw, clothing (barrack, prison and hospital), and other stores required for the use of troops in barracks, hospitals and prisons.

That portion of the Barrack Services pertaining to the receipt and issue of Barrack equipment was transferred from this Directorate to the Directorate of Equipment and Ordnance Services. This was done in order to eliminate dual accounting. Under the former system by which this Directorate was responsible for the receipt and issue of Barrack equipment, the equipment was originally issued from Ordnance to the Barrack Officer and from the Barrack Officer to the Unit, necessitating accounting on the part of both the Ordnance Officer and the Barrack Officer. Under the present system the Ordnance Officer issues direct to the Unit.

As a result of this transfer, the services of four Barrack Officers were dispensed with.

(2) Directorate of Equipment and Ordnance Services

During the year ending 31st of March, 1923, the work of the Royal Canadian Ordnance Corps has been heavy, largely on account of the reduced establishment. Much work has been done in conditioning equipment held on charge as "not serviceable" which was received in the same condition at the time of demobilization and could not be conditioned before.

The following is a review of the work performed by the Royal Canadian Ordnance Corps.

Inspection of Non-Permanent Units.—The usual annual inspections of non-permanent units' arms, clothing and personal equipment have been carried out.

Courts of Inquiry.—There have been 550 of these, nearly all of which have been held on the loss of arms, clothing and equipment by active Militia Units. The consideration of these courts with their detailed evidence of witnesses, recommendations of courts and District Commanders, has required a great amount of time and labour in this branch, especially because of the amounts involved and the effort to secure uniformity and fairness in settlements.

The losses which form the subject of these courts have been due, in part, to lack of experience on the part of Commanding Officers, and their failure to realize their responsibility, resulting in the use of unsafe places of storage, failure to mark clothing and equipment, and failure to obtain the return of same after Annual Camps before the men are paid. Much loss occurs in the City Units through men enlisting, receiving clothing and then absenting themselves or leaving the city. This last condition is due to post-war regulations permitting the wearing of uniform as civilian dress.

Compilation and Publication of Regulations, Scales of Issue, etc.—(*a*) The existing Scales of Issue of Arms, Personal and Regimental Equipments have been kept up-to-date as far as possible—new items being authorized if funds to provide were available.

New Scales of Issue of Signalling and Telephone equipment were compiled in conjunction with other branches.

(*b*) Clothing Regulations, Part II (Non-Permanent Units), 1922, were published and distributed.

(*c*) Pending revision, Equipment Regulations, Part I and II, have been amended as found necessary to meet present-day requirements.

(*d*) Regulations for Canadian Ordnance Services, Part I, 1908, have been under revision and the revision is nearing completion.

(*e*) Dress Regulations for the Canadian Militia 1907, have been amended very frequently due to the adoption of new badges for most of the Non-Permanent Units.

(*f*) New tables of Wireless Equipment were compiled in conjunction with other branches for Signal Units of both the Permanent and Non-Permanent Force.

(*g*) Accounting has been carefully watched in conjunction with the stores Audit Branch, and, pending revision of the various regulations, suitable instructions to guide all concerned were issued from time to time as found necessary to safeguard the public interest.

Sales of Stores.—Surplus and condemned ordnance stores to the value of $96,000 have been disposed of through the Purchasing Commission of Canada, and the proceeds deposited to the credit of the Receiver General.

Stocktaking.—Stocktaking has been carried out in Ordnance Depots as far as possible with the limited establishment. It is desirable that much more be done in this connection.

It was hoped that a complete post-war stocktaking would have been completed this year, but owing to the reduction of establishment in the Corps, this work has been much delayed. Stores have been closely packed to make available storage space suffice. Stocktaking, especially when quantities are large, involves much time and labour.

Personnel and Regimental Administration.—During this year two officers holding the appointment of Director of Equipment and Ordance Services have died. The death of Colonel W. Hallick occurred on the 24th of September, 1922, and that of Colonel Taschereau on the 18th of February, 1923. Both of these officers have rendered very valuable service and their loss is much regretted.

The Corps has suffered a further reduction in establishment during the year of one officer and one hundred other ranks. In 1921-22 a reduction of 80 other ranks was made. A review of the year's work shows that the reduction has gone too far and that an increase in the establishment is desirable. There are certain portions of the work which are vital and yet are not a part of the daily routine; one of these is stocktaking. It is essential that this be carried on, not only because it safeguards the stores, but because it enables the officer in charge to know whether or not the work is being properly done, so that ledgers, tallies and stock all agree.

The work of conditioning stores is also very important; for instance, equipment received on demobilization, or camp equipment returned after big camps, has to be taken care of at once and the work of separating it into "serviceable," "repairable," or "useless" done as soon as possible thereafter. The shortage of personnel is leading to great delays in this work.

Introduction of a School of Instruction.—A course of instruction in Ordnance duties was opened on the 15th of March, 1923. Candidates from Military Districts 1, 2, 3, 4 and 5 attended. Good results were obtained, all candidates having qualified.

Barrack Services.—These have been taken over by the R.C.O.C. insofar as the duties in connection with receipt, issue and accounting for barrack stores are concerned. These extra duties have increased the work of this Corps considerably.

Mobilization Stores.—It was found necessary to withdraw certain articles held as mobilization equipment to meet the "peace" requirements of the forces. It is impossible at present to complete the mobilization equipment up to the authorized establishments owing to lack of funds.

Caretakers' Section.—The duties in connection with the administration of this section have been carried on as usual. Caretakers have been provided for units so far as the establishments and funds permitted. There are still buildings and units without caretakers, but no action can be taken to provide them owing to shortage of funds.

Camp Equipment.—New Scales of Issue of Camp Equipment have been published reverting to the pre-war scales. During this year arrangements were made for an ordnance representative to be present at the time of issue and receipt of camp equipment in all camps.

Issues of camp equipment are still being made to Cadets, Boy Scouts and Girl Guides.

Arsenals.—Dominion Arsenal, Quebec.—The following classes of ammunition were manufactured at this arsenal and excellent results were obtained from that used:—

Cartridges, S.A. Ball, .303″ Mark VII.
Cartridges, S.A. Ball, .303″ Special for Dom. Rifle Association.
Cartridges, S.A. Ball, Blank.
Cartridges, Drill, .303″.
Cartridges, S.A. Ball, .22″.
Puffs, powder.
Tubes, percussion, drill.

Dominion Arsenal, Lindsay.—All work in connection with the closing down of the Dominion Arsenal, Lindsay, including Inspection Branch, was carried out. Shipments of components of .303″ cartridges on hand at the time of closing the arsenal and certain raw materials and machinery have been made to the Dominion Arsenal, Quebec.

Certain scrap materials not required by the Dominion Arsenal, Quebec, and some coal have been sold.

Financial reports relating to the Dominion Arsenal, Quebec, and the Dominion Arsenal, Lindsay, are included herein as Appendix "C" and Appendix "D" respectively.

Inspections and Examinations.—The Chief Inspector of Ammunition in addition to his normal work of inspecting the output of the Dominion Arsenal carried out the following work of a special nature:—

Testing and reporting upon:—

Thirty-five rifles, S.M.L.E., which had formed the subject of complaint by the Canadian Bisley Team, 1922, the investigations occupying six weeks.

The subject of converted Mark VI Ammunition by request of the Chief Inspector of Explosives, Department of Mines.

A number of damaged .455″ Smith and Wesson and Webley revolvers.

The total stock of .455″ Dominion Cartridge Company's ammunition held by various Ordnance depots in Canada.

Suitability of .22″ calibre ammunition manufactured by D.C. Company.

Proving and reporting upon special samples of ·22″ and ·303″ ammunition forwarded for report by the District Ordnance Officer, Military District No. 5, and the District Ordnance Officer, Military District No. 2.

Investigating and reporting upon the subject of damaged rifles received from Winnipeg and Toronto.

Carrying out proof and reporting upon defective gallery practice ammunition reported from Military District No. 2.

Inspector of Armourers' Services.—The following services in connection with arms returned from overseas in an unserviceable condition were performed by this officer:—2,871 S.M.L.E. rifles were overhauled and repaired, 556 machine guns were overhauled and repaired; 27,654 swords bayonet were overhauled and repaired; 17,426 scabbards sword bayonet were overhauled and repaired.

Loans.—During the year a bond agreement was entered into with the Red Cross Disaster Relief whereby the department agreed to loan certain stores for disaster relief purposes throughout the country; on the condition that the charges for any losses, damages, transportation, deterioration, etc., would be borne by the parties obtaining the loan.

The disasters in connection with which large loans of military camping equipment were made for relief purposes were:—Cobalt fire, Haileybury fire, St. Boniface College fire, and Terrebonne fire.

In the case of the Haileybury fire 10,000 blankets, 439 tents and 1,840 ground sheets were issued.

These loans caused considerable work for the Royal Canadian Ordnance Corps, i.e., preparation of shipments to be made to the various disaster centres and the necessary work in connection with accounting. They have also resulted in considerable loss by depreciation.

(3) Engineer Services, 1922-23

In general the funds provided for Engineer Services and Works in the 1922-23 Estimates provided only for the maintenance of existing Military Buildings and Works, and, therefore, no new construction of much needed barracks, armouries, rifle ranges, etc., could be undertaken. The buildings, etc., have been kept in a fair state of repair only, as the funds available would permit of only absolutely essential work being undertaken.

The existing accommodation for the Permanent Force cannot be considered satisfactory. For example, in Halifax, the buildings are old, scattered and in some cases the living quarters are far below the standard which is customary throughout Canada. A large expenditure is required before conditions can be rectified. Again in Toronto, the usual maintenance work has been postponed for years on account of Stanley Barracks having been sold to the City of Toronto in 1908, and since used as Barracks with the City's permission. This year, it has been absolutely necessary to do considerable work in order that these barracks might be retained, in a habitable condition. The question of New Barracks for the troops now stationed in these Barracks is a matter of urgency. Again most of the buildings comprising the Barracks at Winnipeg, are of a semi-permanent construction and consequently maintenance costs are high. The stabling accommodation is very poor and new stables should be constructed at the earliest possible date.

A very large appropriation for New Barracks throughout Canada will be required before adequate accommodation can be provided.

No new armouries have been constructed during the year. Every endeavour has been made to keep the existing buildings in repair, but much remains to be done before these armouries can be considered to be in a satisfactory condition.

At the commencement of the late war in 1914, the armouries were in good condition. During the war the buildings were not kept up and for the most part were occupied for quartering of troops more or less continually. Under these conditions the wear and tear was, naturally, very great, so that at the close of the war and after demobilization they were in very bad condition. For obvious reasons, during the war, it was not possible to carry out any but essential repairs; such work as repointing brick work, repainting, etc., was not carried out. The work of making good alterations made for war purposes and damage done by the C.E.F. Troops, etc., has been carried on in the years following 1919, and the cost charged to Demobilization Appropriation. Charges for general repairs, fair wear and tear, etc., were ruled to be a proper charge against Engineer Service Vote, and not against Demobilization Appropriation. The Vote for Engineer Services has been progressively reduced year by year, and it has been impossible with three years reduced estimates (Estimates 1920-21, 1921-22, 1922-23) to make good fair wear and tear, which has taken place between the years 1914 and 1923. More funds must be found if these Armouries are to be put in a satisfactory condition, and if additional funds are not provided, the condition of the buildings will become steadily worse, ultimately necessitating very much greater expenditure.

The condition of existing Rifle Ranges is generally good. This refers more particularly to the condition of the firing points, target pits, butts, etc. In some cases, due to increase in the range of modern rifles, additional land is required for danger areas. In some cases this can be purchased for reasonable prices, but in others, due to expansion of cities, it will be necessary to either purchase land at very high rates, or to build new ranges elsewhere. Generally speaking, it can be said that there is a considerable shortage of Rifle Ranges throughout Canada. It must be remembered that no new armouries or rifle ranges have been constructed since 1914. Armoury accommodation can be provided by renting buildings which have been built by private capital, but there is no counterpart in civil life of a rifle range, and when extra accommodation is required, it must be provided by construction.

The valuable property at Connaught Rifle Ranges, acquired just previous to the late war, is being gradually developed. This property is now used yearly for the Annual Meeting of the Dominion of Canada Rifle Association. Preliminary arrangements have been made for its use by the Small Arms School for future courses and for Camps of Instruction of the Ottawa Non-Permanent Militia Units. An agreement has been entered into with the Department of Agriculture for the use of a portion of this property, free of charge, for experimental purposes. By this arrangement the property will not only be kept in good condition but the value from an agricultural standpoint, will be increased with no cost to the Defence Department. On the other hand the Department of Agriculture is able to carry out valuable experiments without any cost, so far as rental for land is concerned.

Due to the coal shortage during the winter 1922-23, it has been necessary to burn bituminous coal, in the majority of barracks and armouries. While most of the heating apparatus will burn this fuel, additional care and attention is necessary. In practically all buildings the chimneys flues have been constructed with a view to burning anthracite and consequently are too small to properly handle the gases and soot given off from bituminous coal. Alterations have been made in certain places, but it is not possible to remedy this defect short of constructing new chimneys.

The Permanent camp sites have been kept in repair so far as funds will permit. The buildings at these camps are of wooden construction and having

been erected for the most part, over fifteen years ago, maintenance is heavy. The policy of holding local camps has necessitated a great deal of work of a temporary nature, such as provision of water supply, ablution facilities, etc.

Preliminary arrangements have been made with the Forestry Branch of the Department of the Interior to permit that Branch to use certain parts of the Petawawa Military Reserve for Forestry experimental work.

There is a serious lack of Engineer Officers available for duty; out of an establishment of 48 and a limited establishment of 32, only 26 Officers are available for duty on Engineer Services.

The lack of Military Foremen of Works, noted in the reports for the last two years, still exists, although another Foreman of Works Class is now being held.

During the year, arrangements have been completed to carry out any Engineer work required by the Royal Canadian Air Force.

Very little work was carried out chargeable to Adjustment of War Claims during the year. The following is a list of the more important items:—

M.D. No. 3—Picton Armoury—General repairs.

M.D. No. 3—Kingston Armoury—Redecoration of Officers Mess, (P.W.-O.R.)

M.D. No. 4—Montreal Armoury—Les Carabiniers, Renovation and repairs.

M.D. No. 5—Fraserville Armoury—Restoration.

M.D. No. 10—Winnipeg, Man.—Ordance Depot, Ft. Osborne Barracks, renew metal roof.

M.D. No. 12—Saskatoon Armoury—Renovation.

The following is a list of the more important work carried out and chargeable to Engineer Service Vote:—

Military District No. 1

Windsor—Renew floor Main Hall Armouries.

Guelph—Completion of butts, Rifle Range.

London—Concrete foundations and floors Ordance Store Bldg.; Installation of woodworking machine in R.C.E. Shops, Wolseley Barracks; Wolseley Barracks Incidentals; Tecumseh Barracks Incidentals; Hospital Bldg. repairs to roof, plumbing, wire screens, etc.

Military District No. 2

Niagara—Rifle Range, repair cribwork, markers' shelter.

Long Branch—Rifle Range, removal of 20 target frames from 1,000 to 500 yard range.

Toronto—Stanley Barracks, Incidentals; Rosedale Barracks, Incidentals; Rosedale, dismantling huts C. & D.; Rosedale, conversion of huts into Married Quarters; Stanley Barracks, B. & D. Blocks, new lavatory accommodation; Stanley Barracks, painting material; Armouries—Incidentals; Armouries—External painting; Armouries—Basement internal painting.

Hamilton—Armouries—Basement internal painting.

Dundas—Armouries—Improvement to grounds.

Military District No. 3

Belleville—Rebuild Rifle Range in part, not completed.

Renfrew—Construct new Rifle Range.

Kingston—Extend gun shed, build washing platform, retaining wall, Tete

du Pont Barrack incidentals; Tete du Pont Bks. lavatory accommodation; Centre Porches "A" Block; Tete du Pont Bks. provide gravel for Barrack Square.

Prescott—Rifle Range general repairs.

Cobourg—Rifle Range, renew fencing.

Kingston—G.O.C's Qrs., renew plumbing; Tete du Pont Bks., re-surface roof stables; Fort Henry, re-roof east side of lower Battery.

Military District No. 4

Pointe-aux-Trembles Rifle Range, general repairs.

St. John's—New roof covering for Riding School; Men's Cook house; skating Rink and Dressing Rooms; Military Hospital painting; Barrack Incidentals; Barracks, other services specified.

Montreal—Craig St. Drill Hall, provide accommodation for Regt. de Maisonneuve; 4th Field Co. Drill Hall improvements to lavatory accommodation; Q.R. Armoury of Canada, repairs to plaster ceilings and walls.

Military District No. 5

Citadel—Overhauling heating system, Officers' Quarters; overhauling and repairs to boilers, Ordnance Stores; paint roof, Drill Hall; Danger Bldg.—Rewire in conduit; Cartridge Factory—Steel beams; Arsenal—Interior painting; Arsenal—Rebuild portion damaged by fire.

Military District No. 6

Lunenburg, N.S.—Rifle Range—general repairs.

Truro, N.S.—Armoury—Repair gravel roof.

Halifax—McNab's—Range warden qrs. extensive repairs.

Bedford Rifle Range—Provide new 600 yd. Firing Point.

Halifax—Repair King's Wharf North Pier; Engineer Yard, alterations; R. A. Park, external painting.

Military District No. 7

General repairs.

Military District No. 10

Winnipeg, Man.—Repairs owing to damage by storm; repairs subsequent to fire at Ft. Osborne Bks.; alterations and repairs to E.L. Signal apparatus; St. Charles Rifle Range—install new telephone system.

Military District No. 11

Prince Rupert, B.C.—Reconstruction of Rifle Range.

Esquimalt, B.C.—External painting Ordnance Depot.

Military District No. 12

Moose Jaw—New roof covering on Armoury.

Military District No. 13

General repairs.

Petawawa Camp

Repairs to railway ramps and platforms.

Royal Military College

Kingston—Renewal of gas plant, Educational Bldg.; reappropriation of Naval Gym. as Draughting Room.

Fort Frederick—Lunette—reappropriation as General Staff Room.

Ottawa

Connaught Rifle Range—Maintenance.

Rockcliffe Rifle Range—Maintenance.

Target paper purchase to provide a uniform colour for the whole of Canada for Military Ranges.

(*j*) The following is a list of Military Properties disposed of during the year:—

St. Anns, Ont.—Drill Hall Site sold for $120 under authority of Order in Council, November 24, 1922.

Kingston, Ont.—Fort Henry Reserve—part of Cartwright's Point sold to A. D. Cartwright et al for $750 under authority of Order in Council October 20, 1922.

Lansdowne, Ont.—Drill Hall Site—sold to Municipality of Front of Leeds and Lansdowne for $300 under authority of Order in Council July 24, 1922.

Tory Hill, Ont.—Drill Hall site—0.09 acres sold to Wm. Maughan for $10 under authority of Order in Council October 20, 1922.

Quebec, P.Q.—Parcels of land on Canoterie and St. Valier Sts., sold to the City of Quebec for $1,700 under authority of Order in Council, October 15, 1922.

Quebec, P.Q., Citadel—Small area of 1,035 square feet sold to Mr. Strang for $1,500 under authority of Order in Council December 30, 1922.

Quebec, P.Q.—Parcel of land corner Glacis and D'Aiguillon Streets, transferred to Dept. of the Interior for sale to W. H. Reynar for $50 under authority of Order in Council May 9, 1922.

Levis, P.Q.—Reserve—Small area sold to Town of Lauzon for street widening for $80 under authority of Order in Council January 26, 1922. Grant from the Crown dated March 5, 1923.

Valcartier Camp, P.Q.—25 acres of lot No. 97 sold to Wm. Neil for $1,525, under authority of Order in Council May 9, 1922.

Halifax, N.S.—Point Pleasant—Water lot and right-of-way for spur railway line transferred to the Dept. of Railways and Canals, by Order in Council dated November 24, 1922.

Liverpool, N.S.—Battery Point—Part transfererd to Dept. of Marine and Fisheries by Order in Council dated October 16, 1922; remainder sold to Mrs. Wall for $100. Grant dated January 4, 1923.

Lunenburg, N.S.—Jessons Point—Transferred to Dept. of Marine and Fisheries by Order in Council dated September 7, 1922.

Windsor, N.S.—Fort Edward—Part (20.6 acres) North of Drill Hall transferred to Dept. of Interior by Order in Council dated April 12, 1922.

Fredericton, N.B.—Park Barracks—Transferred to the Dept. of the Interior by Order in Council dated January 5, 1923, for sale.

Fredericton, N.B.—Queen St. Barracks—Transferred (with the exception of Drill Hall site and parade ground) to the Dept. of the Interior, for sale by Order in Council January 5, 1923.

St. John, N.B.—Red Head Battery—Transferred to Dept. of Marine and Fisheries by Order in Council dated November 20, 1922.

St. John, N.B.—Fort Dufferin—Transferred to the Dept. of Marine and Fisheries by Order in Council dated November 20, 1922.

Vancouver Is., B.C.—Bentick Is.—Transferred to the Dept. of Health by Order in Council dated December 18, 1922.

Elbow River, Alta.—Drill Hall Site—Retransferred to the donor, E. M. May, under authority of Order in Council June 29, 1922.

The following is a list of Military Properties acquired during the year:—

Chilcotin, B.C.—Training Area—100,537 acres acquired from the Province of British Columbia, as part of transfer to be made in exchange for Point Grey Reserve, dated March 8, 1923.

REPORT OF THE DIRECTOR OF PAY SERVICES

The work in connection with outstanding matters arising from the war was still further reduced, although the number of individual claims for adjustments of pay and allowances, etc., was greater than was anticipated, due partly no doubt to the activity of various soldiers' organizations through which many claims were submitted. It will be of interest to note that the total paid out in the form of adjustments of pay and allowances, etc., to ex-members of the Canadian Expeditionary Force and their dependents was in excess of the total for the previous year, being $422,677.16 as compared with $385,322.40 for the fiscal year ending March 31, 1922.

The above figure hardly serves to convey an idea of the work involved in the investigation of the belated claims which are still being received, as nearly every claim necessitates an exhaustive investigation and careful scrutiny of numerous files and documents.

A large proportion of these claims are found to be unwarranted and have to be disallowed, but no claim is disallowed without careful consideration of all the circumstances in connection therewith.

Matters of this kind are dealt with by the Assistant Director of Pay Services (Demobilization) with a small trained staff who are familiar with the regulations which were in force during the war.

The Staff of that Section, which during the fiscal year ending March 31st, 1922, was reduced from 278 to 58, was still further reduced during the past year to 19. It is hoped that the work arising as a result of the war will materially decrease during the coming year, so as to permit further reduction in personnel.

The report of the Assistant Director of Pay Services (Demobilization) is included herein.

PERMANENT AND NON-PERMANENT ACTIVE MILITIA

The Pay Services of the Permanent and Non-Permanent Active Militia are carried out by small detachments of the Royal Canadian Army Pay Corps, stationed at the Headquarters of the several Military Districts.

As mentioned in the last report, the personnel of the Royal Canadian Army Pay Corps, in addition to paying the Troops in the various Districts, makes all disbursements and keeps accounts in connection with supplies, transport, maintenance, repairs, construction, etc., in the Districts, both for the Permanent and Non-Permanent Active Militia.

During the year under review, the work of mustering and paying the Troops training at Camps of Instruction and at Local Headquarters, and the issue of Annual Allowances and other financial matters relating to Units of the Non-Permanent Active Militia, were carried out under the supervision of the District Paymasters in a satisfactory manner.

Complaints from various Military Districts indicated that owing to the higher prices generally prevailing, and for various other reasons, the rates of allowances for the care of Arms, etc., authorized for the Non-Permanent Active Militia were inadequate, and the question was fully considered by a Committee appointed for that purpose. Owing however to the shortage of funds, it was not possible to put forward recommendations covering the various increases

which were suggested by the Committee, but it is hoped that it will be possible at a later date to make some provision to meet the increased expenses of Non-Permanent Units.

At the end of the fiscal year, the recommendation which was embodied in the last Annual Report regarding the adoption of the pre-war system of Clothing Allowance for W.O.'s, N.C.O.'s and men of the Permanent Force was being considered, and it is probable that during the fiscal year 1923-24, similar arrangements will be brought into effect.

Following the formation of the Department of National Defence, a Board was appointed with the Director of Pay Services as President, to consider the question of suitable Pay and Allowance Regulations for the Royal Canadian Air Force. For various reasons it has not been possible to submit the proposed Regulations for approval before the end of the fiscal year, but it is anticipated that when revised Regulations are brought into effect, the issue of pay and allowances to Air Force personnel will be carried out by the Detachments of the Royal Canadian Army Pay Corps, which arrangement will result in a reduction of expenditure in connection with the Pay Services of the Department of National Defence.

The members of the staff have carried out their duties during the year in an efficient manner, and no complaints have been received at any time either from the Permanent or Non-Permanent Active Militia regarding the manner in which the administration of the Pay Services has been carried out in the different Districts.

To meet the requirements of the Service, it will be necessary to arrange for the transfer of two or three District Paymasters early in the coming year, and it is also hoped that it will be possible at a later date to arrange an interchange of personnel between the Stores' Audit Section and the Districts, in order that the Pay Staff may be trained in all Branches of the work.

The undermentioned financial statements, comprising Appendix "B", cover the fiscal year ending March 31st, 1923, and show the expenditure in each District in connection with the Permanent and Non-Permanent Active Militia:—

1. Allowances paid to the Active Militia in the various Districts.
2. Statement of expenditure, by stations, on account of pay and allowances of the Permanent Force.
3. Statement of expenditure on account of pay and allowances of Officers and Warrant Officers of the Permanent Force.
4. Statement of expenditure on account of pay and allowances of Officers and Warrant Officers of the Permanent Force, with details of expenditure by stations.
5. Statement of expenditure on account of pay and allowances of N.C.O.'s and men of the Permanent Force.
6. Statement of expenditure on account of pay and allowances of N.C.O.'s and men of the Permanent Force, with details of expenditure, by stations.

Under the jurisdiction of this Directorate are the Stores Audit Division and the Paymaster, National Defence Headquarters. Reports upon the work of these sections of the Directorate follow:—

Stores Audit Division

The undermentioned ledger and stock accounts, accounting for stores, clothing and necessaries for use of the Department of National Defence (Militia Service), have been audited during the period under review:—

Ordnance Depots.
Engineer Stores.
Armament Stores.
Barrack Stores.
Mechanical Transport Stores.
Water Transport Stores.
Medical Stores.
Veterinary Stores.
Artillery Equipment.
Clothing and Equipment Accounts, Permanent Units.
Clothing and Equipment Accounts, Non-Permanent Units.
Stores, Clothing and Equipment Accounts, Royal Military College.
Ammunition and Small Arms Accounts, Rifle Associations.
Equipment and Ammunition Accounts, Cadet Corps.

These accounts are a record of stock on hand, and of all transactions in connection with receipt and issue of stores, clothing and necessaries. Clothing Accounts of Permanent Force units are audited monthly, all other accounts annually.

Number of Accounts audited during the period under review—3,484.

Values of articles recovered during the fiscal year, as result of stores audit observations on accounts, $19,968.30.

A revised system of accounting for material issued on payment by the Department to Contractors for manufacture of articles of Clothing, was introduced during the year. The ledger account recording transactions between the Department and Contractors is kept in this Division, and payments by Contractors checked up.

Paymaster, Militia Headquarters

The Paymaster, Militia Headquarters, for the year under review has been responsible for disbursements on the following accounts:—

(*a*) Payment of all pay and allowances for military personnel employed at Militia Headquarters.
(*b*) Payments in liquidation of the estates of deceased Officers, Warrant Officers and Men.
(*c*) Disbursements in connection with the Petawawa Training Camp.

During the period April 1, 1922, to March 31, 1923, the Paymaster, Militia Headquarters, issued 10,329 cheques, amounting to $1,023,358.43, on the above accounts.

CANADIAN EXPEDITIONARY FORCE

This Section is designated as that of Assistant Director of Pay Services (Demobilization). The work for the past year ending March 31, 1923, has not varied greatly from that of the previous year, and may be summarized as follows:—

(1) War Service Gratuity.
(2) Pay and Allowances, including Separation Allowance.
(3) War Loan and Refund of Transportation.
(4) Redemption of Sterling exchange at par.
(5) Overseas and Canadian Voucher Library.
(6) Accounting.

War Service Gratuity

The work of this Section is divided into three parts, namely:—

(*a*) War Service Gratuity to ex-members of the C.E.F., and their dependents.

Delayed applications, also claims for additional amounts on account of service not previously substantiated, as well as claims for dependents where officers or soldiers did not apply on their behalf, are still being received.

A large number of these claims are not admissible under the regulations. However, during the past year this Branch has paid 1,064 claims, total expenditure—$184,466.82.

(*b*) Gratuity to dependents of members of the C.E.F. who were killed or died in the service, and to dependents of Canadians who were killed or died during service with His Majesty's Forces.

Practically all claims in this category have now been paid, the outstanding claims being those for which no present address is available. There were 96 claims paid in the past year, expenditure—$11,419.41.

(*c*) War Service Gratuity to ex-members of His Majesty's Forces (and their dependents) who were domiciled in Canada prior to the War, and who, after discharge from such Force, became resident and domiciled in Canada.

These claims were dealt with under the provisions of Order-in-Council, P.C. 1372 of the 29th June, 1922, which extended the provisions of Order-in-Council, P.C. 2389 of December, 1919, to the 31st March, 1923.

Under this heading 372 claims were paid, expenditure—$94,371.24.

Adjustment of Pay and Allowances, and Separation Allowance

Claims and enquiries in connection with Pay and Allowances, Separation Allowance, Assigned Pay, Working Pay, etc., of Other Ranks, ex-members of the C.E.F., during any period of their service, are dealt with and adjustments authorized if in order.

During the past year 1,724 accounts were investigated in connection with unclaimed credit balances. After making various enquiries regarding address, etc., 392 claims were paid, the balance (1,332) were audited and are now held pending receipt of correct address. The total amount of unclaimed credit balances amounts to $326,852.38.

During the period under report, claims for Separation Allowance were paid with a total expenditure of $82,032.46.

Adjustments of Pay and Allowances, including Working Pay, etc., totalled $50,387.23.

War Loan and Refund of Transportation

(*a*) This subsection deals with any enquiries relating to Canadian Victory Loan, or British War Loan, purchased by personnel of the Canadian Expeditionary Force.

(*b*) The various Orders-in-Council dealing with refund of transportation to dependents were rescinded by Order-in-Council 4385 of the 15th November, 1921. Claims are still being received, and after investigation are passed to the Chief Accountant of the Department who prepares special Orders-in-Council in each case. 45 cases were dealt with during the past year.

Sterling Exchange

The regulations permitting the redemption of Sterling at par, and payment of claims for difference in exchange on funds brought back to Canada which represented earned Pay and Allowances, were continued until June 30th, 1922,

when a new Order-in-Council P.C. 110/1426 was brought into force. This Order-in-Council limited payment of the claims for difference in exchange to those received by June 30th, 1922, and confined the redemption of Sterling to personnel of the Overseas Military Forces of Canada.

The following particulars show the number of cheques issued against Sterling received, and expenditure for difference in exchange:—

Redemption of Sterling—	
Number of cheques	888
Expenditure against Credits	$264,963.23
Claims for difference in exchange—	
Number of cheques	885
Expenditure	$ 10,152.43

Voucher Library

During the past fiscal year, the Voucher Library was required to take over a large volume of pay documents relating to the C.E.F. Approximately 740,000 paid cheques for Separation Allowance, Assigned Pay and War Service Gratuity, were received from the Department of the Auditor General, and also the bank statements, mailing lists, etc., in connection therewith.

Previous reports have indicated the tremendous volume of pay documents, vouchers, etc., which were lodged with this subsection to be so arranged as to be available for easy reference at any time by Branches of this or other Departments, with which end in view the work of filing and indexing the documents and vouchers was continued during the year.

Queries averaging 200 monthly have been dealt with, and considerable information has been furnished to the Historical Section.

Accounting Subsection

This Subsection is charged with the issue and despatch of all cheques and the handling of registered and other mail.

Hereunder is a summary of the work of the Subsection for the past fiscal year:—

Total number of files received		25,490
Total number of letters received		14,600
Number of letters dispatched as ordinary mail, including statements of account		19,866
Total registered mail dispatched, including cheques		6,577
Total payments Pay and Allowances, etc	$636,745 02	
Payments by Credit Advice Notes to High Commissioner	61,047 80	
	697,792 82	
Less sterling redeemed at par	264,963 23	
Net expenditure		$432,829 59

Officers' Pay Section

This Subsection has been operated separately from the Section of the A.D.P.S. (Demobilization) and deals with complaints or enquiries regarding the pay accounts of Officers, covering period of service with the Forces during the War.

While the volume of the work is gradually decreasing, it becomes more intricate in character as time goes on, and nearly every case requires exhaustive investigation and examination of numerous files and documents.

During the fiscal year ending March 31st, 1923, approximately 1,500 letters were despatched by this Subsection. Payments made in respect of claims, etc., exceeded $11,000.00, in connection with which it was necessary to examine some 4,000 files.

The Staff employed on this work has now been reduced to one specially qualified Civil Servant, who is thoroughly familiar with the regulations which were in force during the War.

Overseas Military Forces of Canada

Owing to a final settlement having been arranged between the War Office and the Overseas Ministry up to May 31st, 1920, the work of winding up the financial affairs of the Overseas Military Forces of Canada, which would otherwise have been exceedingly heavy, has not been very large, but belated claims from individuals, contractors, and other Departments of the Imperial Government, relating to the operation of the Forces in England, France and other theatres continue to be received, and are dealt with by the special Committee appointed to handle questions arising in connection with administration Overseas, in accordance with the provisions of Orders in Council P.C. 1705 of 1920 and P.C. 4544 of 1921.

During the year under review the accounts paid amounted to only some $1,500.00, but at the end of the fiscal year a number of claims were under consideration.

The collections of outstanding accounts against the Imperial Government Departments and individuals in England amounted to $76,298.07. This sum covers mainly collections under the reciprocal arrangements between the Overseas Ministry and the Air Ministry.

During the year, action was taken through the High Commissioner, to obtain particulars from Banks in England and France of any balances standing at the credit of semi-official accounts of Units of the O.M.F.C., regimental funds, etc. These returns are now being received and after necessary investigation has been made to establish the ownership of such funds, action will then be taken with a view to disposal accordingly.

Regimental and Canteen Funds

As explained in previous reports, the Regimental Funds of Overseas Units having no territorial affiliation in Canada, such as Reserve Units, Hospitals, etc., were transferred to the custody of the Finance Department, to be held with the Canadian share of the profits arising from the Expeditionary Force Canteens in France and the Army Canteens in Great Britain.

Under the terms of Order in Council P.C. 3144 of 1920, a number of accounts were paid as a charge against the regimental funds of the Units concerned.

These funds are still being held by the Finance Department pending final decision as to disposal, which matter will no doubt be reported upon in due course by the Royal Commission at present considering questions relating to soldiers' pensions, insurance and re-establishment, in accordance with the provisions of Order in Council P.C. 1525 of the 22nd July, 1922.

During the month of March the balance of the Canadian share of profits arising from the operation of Canteens Overseas, amounting to £99,748.14.5, was paid by the War Office to the High Commissioner, and has been credited in the special account carried in the Finance Department referred to above.

REPORT OF THE CHIEF ACCOUNTANT

While the amalgamation of the Militia, Naval and Air Services became effective January 1st, 1923, it was not practicable, owing to the different accounting systems, to merge the Accounts Branches until after the close of the fiscal year 1922-23. The remarks and statements of expenditure herewith submitted, therefore, relate to Militia Services only.

On the 31st March, 1922, the Demobilization Appropriation was discontinued, being superseded by "Adjustment of War Claims" Vote, to which all expenditure due to war services has since been charged.

During the year 1922-23, the expenditure charged to Adjustment of War Claims was $4,454,181. This is $3,462,178, or about 44 per cent less than the previous year. The expenditure from this Vote included payments aggregating approximately $2,750,000 to the British Shipping Liquidation for ocean transport of troops returning to Canada; and to the War Office for medals; in addition, there were paid numerous outstanding claims for smaller amounts, the principal items being for adjustment of pay and allowances, separation allowance and war service gratuity.

The expenditure for Militia Services for 1922-23 was lower than for the previous year, due mainly to a reduction in the appropriations for Annual Drill, which curtailed the training, and for the Permanent Force, necessitating a reduction in the strength of the Force. In the comparison of figures shown below, Civil Government is not shown in either case, it being shown in Statement No. 3, in Appendix " A ".

Following is a comparative table of total expenditure and revenue for the years 1921-22 and 1922-23:—

EXPENDITURE

	Militia Votes	Demobilization and Adjustment of War Claims	Total
	$	$	$
1921–22	11,016,939	8,575,896	19,592,835
1922–23	9,797,408	4,832,623	14,630,031
Decrease	1,219,531	3,743,273	4,962,804

CREDITS—REFUNDS AND REVENUE

—	Revenue	Refunds, Militia Votes	Refunds, Demobilization and Adjustment of War Claims	Total
	$	$	$	$
1921–22	320,738 54	264,425 91	2,657,838 97	3,243,003 42
1922–23	466,714 44	293,045 49	1,281,335 48	2,041,095 41
Increase	145,975 90	28,619 58		
Decrease			1,376,503 49	1,201,908 01

The following statements of expenditure and revenue will be found in Appendix " A ":—

(1) Appropriation Accounts Militia Votes 1922-23.
(2) Militia Revenue 1922-23.

(3) Comparative Statement of Expenditure for ten years, 1913-14 to 1922-23.

(4) Expenditure on account of Adjustment of War Claims 1922-23.

(5) Expenditure on account of War, Demobilization and Adjustment of War Claims Appropriations, August, 1914, to March 31st, 1923.

Transport and Freight Claims

During the fiscal year, a greater number of transport accounts were received than in the previous year, though the amount involved was not so large. A considerable reduction in the number of unpaid railway accounts has been made; the amount outstanding March 31st, 1923, being $93,028.28, including one account for $87,267.26, which is still under investigation.

Transport accounts, in connection with war services, that were paid during the year amount to $2,676,754.96. In addition to the railway accounts under investigation, there are still outstanding interest charges to be settled with the British Shipping Liquidation, as well as some claims from Steamship Companies.

Settlement was effected, during the year, of:—

15 claims for loss and damage to shipments..	$ 1,130 66
70 applications for refund of unused portion of tickets.. ..	25,869 50

Recoverable Accounts

As in previous years, recoveries of moneys expended on behalf of British and Foreign Governments and other Government Departments, were effected during the year under review. Audit observations are still being received on accounts previously rendered, giving rise to considerable research and correspondence.

This Section also deals with the accounting in connection with expenditure for Canadian Battlefields Memorials, Imperial War Graves Commission (Canadian Agency), and Imperial proportion of Canadian pensions, in addition to many other miscellaneous recoverable accounts.

Accounts for interest on outstanding amounts, aggregating $902,395.36, were rendered the Imperial Government during the year, of which sum, $478,-283.00 has already been remitted to Canada.

Recoveries effected in the fiscal year 1922-23, exclusive of interest charges, were:—

British and Foreign Governments—	
Recovered by cash or through Reciprocal Account.. ..	$650,723 59
Other Government Departments—	
Recovered by cash or transfer warrants through Finance Department..	311,564 18

Surplus Stores

During the fiscal year 1922-23, the sum of $122,542 was collected for Surplus War Stores sold and the amount placed to the credit of the Receiver General.

There was a considerable decrease in the volume of this work during the year.

Cost Accounting

Some progress has been made in Cost Accounting and Statistical work during the year. In the reorganized establishment of the Branch, provision is made for a Cost and Statistical Division. As amalgamation did not become effective until 1st of April, 1923, the main progress will, therefore, be reflected in next year's report. Arrangements were made before the close of the year under report, to analyze the expenditure for annual training of the Permanent and Non-Permanent Active Militia for the season of 1923.

REPORT OF THE ASSISTANT DEPUTY MINISTER

Submitted herewith are reports relative to (1) Civilian Employees, (2) Printing, Stationery and Contingencies, and (3) Correspondence Registry Office.

(1) *Civilian Employees*

On the formation of the Department of National Defence on January 1st, 1923, it became necessary to review the civilian staffs of the three amalgamating Departments (Militia and Defence, Naval Service and Air Board) in order to decide upon the proper disposal of the employees of these Departments, in the interests of efficiency and economy. It was anticipated that as a result of the amalgamation, certain branches, which were common to the three Departments, such as Accounts, Contracts, and Correspondence Registry, could be combined, and that the work carried on by these branches could thereby be performed with a reduced personnel.

The organization of the new Department, which was carried out by the Civil Service Commission, was necessarily somewhat tentative and was still too recent at the end of the fiscal year to allow of any definite statement being made as to the exact measure of economy that would result eventually from the amalgamation. As experience is gained in the working of the new organization, it may be found necessary to amend the civilian establishment provided for certain branches; but it is hoped that, before the end of the year, a final and complete establishment can be prepared, based upon the least number of employees necessary for the efficient performance of the work of the Department.

The statement given below shows the number of civilian employees in the Department of Militia and Defence (Permanent and Temporary), and the amount paid in salaries, on April 1st, 1922, and on March 31st, 1923.

	Employees		Total Amount paid in Salaries	
	April 1, 1922	March 31, 1923	April 1, 1922	March 31, 1923
			$ cts.	$ cts.
Permanent	375	331	47,308 36	43,298 35
Temporary	676	217	49,622 62	19,846 52
Totals	1,051	548	96,930 98	63,144 87

Included in the number of temporary employees in the Department on March 31st, 1923, there were about 70 who were, on that date, under notice that their services would be dispensed with on April 1, 1923, representing a further reduction in the amount paid in salaries of approximately $7,000.00.

(2) *Printing, Stationery and Contingencies*

Statistical Statement showing work and expenditure by the Printing, Stationery and Contingencies Division:—

	1921–22	1922–23	Increase or Decrease
Printing requisitions issued	593	530	63—
Stationery requisitions issued	1,513	1,607	94+
Proceeds of sales of military books	$ 775 53	$ 1,595 14	$ 819 61+
Expenditure for printing	92,613 15	37,098 17	55,514 98—
Expenditure for stationery	76,250 23	39,183 21	37,067 02—
Express and freight	10,743 47	4,795 40	5,948 07—

\+ Increase. — Decrease.

(3) *Correspondence Registry*

Statistical report on the work of the Central Correspondence Registry for the fiscal year ending March 31, 1923:—

	1921–22	1922–23	Decrease
Files charged-out	380,611	275,080	105,531
Incoming files recorded or passed	596,734	303,475	293,259
Files transferred to Daly building	450,461	23,742	426,719
Loose papers received	326,538	171,975	154,563
Files created	50,164	12,249	37,915
S.A.A.P. combined	.....	5,528	(Increase)
Total files handled	1,804,508	792,049	

STAFF

April 1, 1921	115	April 1, 1922	46
March 31, 1922	86	March 31, 1923	37

During this period the Air Board records were amalgamated with those of the Department of National Defence.

REPORT OF THE DIRECTOR OF CONTRACTS

The Contracts Branch is charged with the carrying out of the following duties:—

(*a*) The making of contracts for the performance of Services as distinguished from purchases.
(*b*) The purchase of all supplies required by the Canadian Militia, Naval and Air Services.
(*c*) The inspection of the supplies purchased direct through the branch.

The services for which contracts are made include electric lighting; snow cleaning; water supply; repairing of motor cars, trucks, gun carriages, limbers, and other military vehicles, of aeroplanes, steamers, lighters and motor boats; laundry washing; dry cleaning; horseshoeing; cartage; conservancy; scavenging; cleaning stoves, pipes and chimneys; funeral services, etc.

The supplies purchased for the Military, Naval and Air Forces comprise uniform and other clothing for all seasons of the year; barrack and office furniture; field equipment including tents and various kinds of implements; field guns, gun carriages, heavy ammunition, rangefinding instruments; automobiles, trucks and other military vehicles; harness and saddlery; signalling equipment; scientific and educational apparatus; lumber; ironmongery of very many kinds; hemp and steel wire rope; anchors and chains; paints, varnishes and oils; electrical equipment, including telephone, telegraph and wireless apparatus of all kinds; armament and torpedo stores; aeroplanes and seaplanes, and other flying equipment; medical, surgical, dental and veterinary apparatus and other supplies; laboratory equipment; gymnasia equipment; provisions; forage; coal and wood, and many thousands of other supplies of different kinds.

The amalgamation of the Militia, Naval and Air Services has been reflected in the Contracts Branch to a greater degree, perhaps, than in any other by reason of the variety of the supplies demanded. The volume of work was greatly increased, but in spite of this fact, the many demands made on the branch were successfully met. Contracts for supplies and services, including local purchases, to the value of approximately $2,498,000 were made during the year. The value of each of these purchases varied from 50 cents to $149,680.

In making these contracts the same procedure as has obtained for many years was carefully followed. Competitive tenders were invited, thus affording the trade every opportunity to secure the business, and at the same time enabled the Department to obtain the supplies required at the best possible advantage.

It is desired here especially to invite attention to the fact that the rule has been invariably followed, in every case where at all possible, of purchasing supplies "Made-in-Canada" out of Canadian material. When Canadian made goods could not be procured the preference was given to goods of British manufacture.

Practically all supplies purchased are inspected by the Contracts Branch Inspection Staff before they are taken into stock and issued. In their work the inspectors are guided in nearly every case by sealed patterns, specifications and drawings. In occasional instances samples submitted by tenderers and approved by the Requisitioning Officer govern the inspection. Such supplies as are not found in conformity with the above conditions are rejected and returned to the contractors.

The inspection of provisions, fuel, forage, and those supplies which are purchased for delivery in the different Military Districts, is carried out under the direction of the Officer Commanding the District.

In August, 1922, the Purchasing Section of the Air Service was amalgamated with the Militia Contracts Branch, and in January following, the Purchasing Section of the Naval Service was also transferred to this branch. Since then the co-ordination of the work previously done in the three different purchasing sections has been progressing with the object of securing a satisfactory unified system.

APPENDIX A

The following are statements for the fiscal year showing:—

1. Appropriation Accounts 1922-23.
2. Militia revenue.
3. Comparative statements of expenditure for ten years, 1913-14 to 1922-23.
4. Expenditure on Account of Adjustment of War Claims, 1922-23.
5. Expenditure on Account of War, Demobilization, and adjustment of War Claims Appropriations, August, 1914, to March 31, 1923.

STATEMENT No. 1.—Appropriation Accounts, 1922-23.

Appropriation	Amount of Grant	Expenditure	Grant unused	Grant exceeded	Remarks
	$ cts.	$ cts.	$ cts.	$ cts.	
Allowances, Active Militia	120,000 00	98,507 04	21,492 96		The Command Pay and Drill Instruction Allowance under this Vote is based on the number of men trained, and as the amount originally proposed for Annual Drill was cut down by $500,000, the training was considerably curtailed.
Annual Drill	1,000,000 00	960,529 29	39,470 71		
Cadet Services	350,000 00	336,933 41	13,066 59		
Clothing and necessaries	340,400 00	337,056 22	3,343 78		
Contingencies	40,000 00	37,609 10	2,390 90		
Customs Dues	25,000 00	24,834 16	165 84		
Departmental Library*	2,000 00	888 12	1,111 88		*Books in connection with the war, for which an additional sum of $1,000 was voted, have not yet been purchased.
Dominion Arsenal, Lindsay	25,000 00	20,669 64	4,330 36		
Dominion Arsenal, Quebec	375,000 00	374,457 96	542 04		
Engineer Services and Works	560,000 00	555,194 82	4,805 18		
Grants to Associations and Bands	100,000 00	91,883 00	8,117 00		
Maintenance of Military Property	235,000 00	233,431 21	1,568 79		
Ordnance Arms, Lands, etc	66,000 00	65,999 44	56		
Pay of Staff	255,000 00	253,188 03	1,811 97		
Permanent Force	5,500,000 00	5,425,105 25	74,894 75		
Printing and Stationery	85,000 00	62,655 15	22,344 85		The printing and stationery accounts for March, 1923 were received too late to be paid in 1922–23 and had to be charged to the New Year, also for purpose of economy, the expenditure was kept down to the lowest possible figure.
Royal Military College	345,000 00	315,957 36	29,042 64		
Salaries and wages	225,000 00	226,565 39		1,565 39	
Schools of Instruction	90,000 00	67,628 25	22,371 75		For economic reasons, several of the classes estimated for were not held, and the pay and allowances were reduced.
Topographic Survey	45,000 00	42,330 07	2,669 93		
Training areas	15,000 00	2,133 89	12,866 11		This Vote was to cover incidental expenditure which might be incurred in connection with existing areas. It has been reduced to $5,000 for 1923–24.

Transport and freight	200,000 00	168,247 14	31,752 86	.....	
Warlike stores	100,000 00	94,022 03	5,977 97	.....	
	10,098,400 00	9,795,825 97	304,139 42	1,565 39	
Special Votes—					
Imperial War Graves Commission (Canada's proportion), Vote No. 342	669,410 00	378,441 65	290,968 35	.....	
Civil Pensions, Vote No. 484	1,115 42	1,115 42	.....	.....	
Gratuity to the widow of the late H. N. P. Chesley, Vote No. 485	466 67	466 67	.....	.....	
Total Militia Votes	10,769,392 09	10,175,849 71	595,107 77	1,565 39	
Adjustment of War Claims	7,380,000 00	4,454,181 40	2,925,818 60	.....	Some large amounts which could not be adjusted during the year have been revoted for 1923-24.
Total	18,149,392 09	14,630,031 11	3,520,926 37	1,565 39	

	$ cts.
Paid by Statute—	
Miscellaneous gratuities, Civil Service Act, 1918	1,761 16
Retirement Act, 1920	10,279 35
Aid to Civil Power	61,429 87
	73,470 38

Properties sold	Balance of proceeds of sale brought forward from 1921-22	Expenditure, 1922-23	Balance of proceeds of sale to be carried forward to 1923-24
	$ cts.	$ cts.	$ cts.
Barracks site, Toronto	1,999 99	77 56	1,922 43
St. Helen's Island, Montreal	19,783 10	.....	19,783 10
Fort Osborne Barracks site, Winnipeg	62,947 27	.....	62,947 27
	84,730 36	77 56	84,652 80

STATEMENT No. 2.—Revenue 1922-1923

Sales of ammunition	$ 2,305 87	
Sales of stores and clothing (not including surplus war stores)	32,807 75	
Sales of books and maps	2,017 45	
Sales of cast horses	2,402 50	
Sales of medals and ribbons (lost and replaced)	12 69	
Sales of military property, condemned stores and scrap, etc	109,959 68	
Rent of military property	19,073 86	
Discharges by purchase	6,267 00	
Receipts for barracks damages	290 82	
Insurance *re* Haileybury drill hall	33,500 00	
Refunds for previous years' expenditure	73,941 89	
Interest on deposit account, B/M London	431 90	
		$283,011 41
Pensions 1901 Act deductions		121,243 53
Royal Military College Cadet fees and supplies		61,999 28
		$466,254 22
Premium discount and exchange		268 50
Conscience money		4 40
Fines and forfeitures		100 00
Railway subsidies		87 32
		$466,714 44

Statement No. 3.—Comparative Statement of Expenditure and Revenue for the Ten Years 1913-14 to 1922-23.

——	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23
	$	$	$	$	$	$	$	$	$	$
Allowances, Active Militia	101,904	66,513	68,643	45,573	70,794	51,283	91,214	75,418	119,362	98,507
Annual Drill	1,830,034	1,875,944	.....	.....	.....	.....	34,059	481,027	1,159,712	960,529
Cadet Services	392,207	327,679	84,972	80,311	90,771	68,770	74,414	230,288	409,348	336,933
Clothing and Necessaries	699,572	510,810	.....	39,191	.....	.....	.....	31,411	264,339	337,056
Contingencies, including Guards of Honour, Escort and Salutes	49,957	36,557	31,670	23,214	16,344	5,338	8,762	38,461	38,791	37,609
Customs Dues	47,630	115,791	26,004	68,780	2,212	.....	.....	19,788	29,735	24,834
Departmental Library	1,055	1,113	985	641	615	1,043	974	846	1,390	888
Dominion Arsenals	358,315	265,262	299,678	29,924	.....	.....	.....	637,423	632,608	395,128
Engineer Services	1,452,729	1,111,196	690,755	395,895	364,529	304,144	319,486	575,518	628,785	555,195
Grants to Associations and Bands	79,506	73,605	47,878	7,981	10,258	2,549	27,328	64,536	85,018	91,883
Maintenance of Military Properties	107,214	209,231	175,053	164,166	173,344	101,352	120,962	221,047	199,990	233,431
Pay of Inspector General and Military Members of Militia Council (Statutory)	21,600	15,161	18,450	18,290	18,152	18,010	18,010			
Pay of Headquarters Staff	74,002	72,050	74,956	84,766	93,998	103,154	127,844	292,831	254,405	253,188
Pay of Division and District Staffs	123,772	107,410	109,241	123,536	112,397	113,693	161,599			
Permanent Force Pay, Provisions and Supplies	2,198,453	2,114,493	2,116,245	2,396,183	2,297,228	1,947,304	3,088,691	5,705,736	5,882,938	5,425,105
Printing and Stationery	72,209	69,880	70,000	70,000	69,871	61,667	52,391	75,206	100,480	62,655
Royal Military College	149,039	153,987	135,685	147,576	162,293	201,885	219,160	321,309	351,969	315,957
Salaries and Wages of Civil Employees	197,823	243,936	232,797	205,801	232,913	210,066	197,459	291,741	225,677	226,565
Schools of Instruction	97,847	164,669	178,898	81,384	7,899	.....	.....	21,958	112,869	67,628
Topographical Survey	39,059	35,038	25,440	31,274	31,406	31,082	40,522	45,125	39,956	42,330
Transport and Freight	199,247	208,774	60,567	43,923	41,306	16,698	24,854	315,443	199,815	168,247
Warlike Stores	703,375	496,867	.....	15,753	.....	.....	.....	361,303	199,376	94,022
Training Areas	6,508	234,592	233,085	224,623	68,838	4,643	5,041	10,612	2,360	2,134
Miscellaneous Small Votes	4,300	15,190	500	.....	22,670	191,373	19,057	172,001	3,029	1,582
Ordnance, Ammunition, Tents, Wagons, and Equipment, generally, excepting Clothing, Saddlery and Harness	967,804	593,167	4,084	57,504	6,058	9,752	1,278	69,597		
Saddlery and Harness	103,732	146,066	.....	.....	.....	.....	.....	.....		
Clothing—Reserve Stock and outfitting new suits	217,419	219,077	.....	.....	.....	.....	.....	.....	74,987	66,000
Ross Rifles, spare parts, bayonets, scabbards, arm chests and inspection	640,613	478,543	.....	.....	.....	.....	.....	.....		
Lands and construction of new Rifle Ranges	51,237	29,216	.....	.....	.....	.....	.....	.....		
Total Ordnance Arms, Equipment, Lands, etc.	1,980,805	1,466,069	4,084	57,504	6,058	9,752	1,278	69,597	74,987	66,000
Consolidated Revenue, Workmen's Compensation Act	.....	.....	.....	.....	.....	1,148	1,411	.....	.....	.....
Total Militia Expenditure	10,998,162	9,991,817	4,681,502	4,301,785	3,887,838	3,444,954	4,634,516	10,058,625	11,016,939	9,797,406

STATEMENT No. 3.—Comparative Statement of Expenditure and Revenue for the Ten Years 1913-14 to 1922-23.—*Concluded*

	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23
	$	$	$	$	$	$	$	$	$	$
War and Demobilization Expenditure and Adjustment of War Claims	.....	53,176,614	160,433,416	298,291,031	316,669,785	377,120,138	323,360,987	16,229,764	7,916,360	4,273,445
Canadian Battlefields Memorials	.....	.....	.....	.....	.....	.....	7,797	164,756	137,421	180,736
Imperial War Graves Commission	.....	.....	.....	.....	.....	.....	.....	378,966	522,115	378,442
Aid to Civil Power (Statutory and recoverable from Municipalities)	187,857	68,800	.....	.....	.....	.....	.....	.....	593	61,430
Toronto Barracks, Special Account	45	87,768	25	.....	.....	.....	.....	144	.....	78
Winnipeg Barracks, Special Account	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal Barrack Site	.....	217	.....	.....	.....	.....	.....	.....	.....	.....
Transferred from Public Works Department	221,849	19,722	.....	.....	.....	.....	.....	.....	.....	.....
Civil Government Salaries	157,137	168,545	172,534	173,798	183,448	189,578	202,459	212,732	551,991	540,757
Civil Government Contingencies	27,997	20,216	28,351	19,488	3,199	18,255	18,996	19,837	25,968	15,991
Total Civil Government	185,134	188,761	200,885	193,286	186,647	207,833	221,455	232,569	577,959	556,748
Revenue Received—										
Militia	36,641	64,831	192,300	90,164	18,228	35,955	.....	.....	.....	.....
Casual	1,790	1,625	41,318	11,949	2,072	3,795	87,867	86,915	141,012	283,372
Royal Military College	36,817	32,047	35,142	41,646	39,177	54,428	53,599	70,107	67,315	61,999
Pension Act, 1901	30,714	27,282	23,513	25,495	26,877	23,841	47,979	120,387	112,412	121,244
Fines and Forfeitures	30,714	.....	.....	.....	.....	.....	5,375	.....	.....	100
Total Revenue	105,962	125,785	292,273	169,254	86,354	118,019	194,820	277,309	320,739	466,715

STATEMENT No. 4.—Adjustment of War Claims—Statement of Expenditure for the Year.

Particulars	Amount
	$ cts.
Stores. (Furniture, bedding, utensils, etc., and repairs to equipment received from Overseas)	102,142 19
Total for equipment	102,142 19
Pay and Allowances (including subsistence, rations and Assigned Pay)	124,349 47
Separation allowance	91,945 55
War service gratuity	289,360 17
Engineer services and works	10,550 63
Medical and dental services	5,290 03
Travelling and transport (ocean)	2,493,830 77
Travelling and transport (land)	182,924 19
Pay of civil employees	376,114 25
Rent, water, Fuel and light	17,771 83
Telegrams, telephones (including rentals), cablegrams and postage	34,640 24
Printing and stationery	8,088 04
Funeral expenses	360 85
Laundry, Manitoba military hospital	2,499 02
Conservancy and contingencies	3,382 99
Grants to N.P. Active Militia on re-organization	4,095 00
War trophies	855 93
Compensation for damages to property, loss of kit, etc	11,499 17
Advertising	345 70
War medals	475,325 06
Soldiers' dependents—transportation	2,562 06
Canadian war graves	16,767 83
Difference in exchange and redemption of British money	10,198 18
Recoverable accounts	8,545 86
Total miscellaneous services	4,171,302 82
Canadian Battlefields memorials	180,736 39
Total for year	4,454,181 40
Expended prior to 1st April, 1922, for war services	1,553,198,094 60
Total	1,557,652,276 00

STATEMENT No. 5.—Expenditure under War and Demobilization Appropriations and Adjustment of War Claims, August, 1914, to 31st March, 1923

April,	1922	$ 115,145 68
May,	1922	164,854 82
June,	1922	155,349 79
July,	1922	172,005 07
August,	1922[1]	413,128 34
September,	1922[2]	326,291 01
October,	1922	94,859 12
November,	1922	81,011 76
December,	1922	87,439 76
January,	1923	78,398 08
February,	1923[3]	2,426,357 22
March,	1923	339,340 75
Total, 1st April, 1922, to 31st March, 1923		4,454,181 40
Total August, 1914, to March, 1922		1,553,198,094 60
		$1,557,652,276 00

[1] The expenditure for this month included an adjustment amounting to $235,181.14 with the Department of Marine and Fisheries, in connection with the hire of Canadian registered vessels requisitioned by the Imperial Government, the amount being deducted from the total sum due by the Department of Militia and Defence to the Shipping Liquidation, Board of Trade, Imperial Government, and credited to the Marine and Fisheries Department.

[2] The expenditure for this month includes a payment of $214,809.22 to the Imperial Government for Medals and Stars supplied.

[3] The expenditure for this month included a payment of $2,039,868.49 to the Shipping Liquidation, Board of Trade, Imperial Government, for transportation of Canadian troops during the war and on demobilization, and an amount of $260,003.02 paid to the Imperial Government for medals and stars supplied.

APPENDIX B.

The following are statements for the fiscal year showing:—

1. Allowances paid to the Active Militia in the various Districts.
2. Statement of expenditure by stations on account of Pay and Allowances of the Permanent Force.
3. Statement of expenditure on account of Pay and Allowances of officers and warrant officers of the Permanent Force.
4. Statement of expenditure on account of Pay and Allowances of officers and warrant officers of the Permanent Force with details of expenditure by stations.
5. Statement of expenditure on account of Pay and Allowances, non-commisisoned officers and men of the Permanent Force.
6. Statement of expenditure on account of Pay and Allowances of non-commissioned officers and men, of the Permanent Force with details of expenditure by stations.

STATEMENT No. 1.—Allowances paid to Active Militia in the various Districts.

District	Command Pay and Drill Instruction	Care of Arms	Postage and Stationery	Signallers' Gratuities, Bonuses, Musketry Prizes and Miscellaneous	Refunds to Receiver General on account of deficiencies, deduct'ns, etc.	Net Expenditure
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
No. 1	4,282 95	1,049 66	586 07	506 50	1,953 57	8,378 75
" 2	10,325 89	2,855 48	1,309 64	1,053 00	4,464 82	20,008 83
" 3	6,209 95	2,127 96	819 70	928 05	1,548 36	11,634 02
" 4	6,991 09	1,698 35	750 39	133 50	1,054 37	10,627 70
" 5	3,366 59	2,914 98	584 44	141 55	618 30	7,625 86
" 6	4,774 02	1,058 85	502 11	996 55	1,831 03	9,162 56
" 7	2,315 17	210 37	363 79	518 95	1,059 37	4,467 65
" 10	4,076 10	1,487 00	712 00	258 50	.....	6,533 60
" 11	3,756 10	1,312 01	671 77	409 50	176 32	6,325 70
" 12	3,788 95	2,520 93	633 29	1,288 89	531 43	8,763 49
" 13	2,129 62	1,017 22	390 66	621 50	819 88	4,978 88
Total	52,016 43	18,252 81	7,323 86	6,856 49	14,057 45	98,507 04

STATEMENT No. 2.—Showing Expenditure by Stations on account of Pay and Allowances of the Permanent Force.

Station	Strength, all ranks, March 31, 1922	Strength, all ranks, March 31, 1923	Pay and Allowances, Officers and Warrant Officers	Pay and Allowances, Non-Commissioned Officers and Men	Total Pay and Allowances
			$ cts.	$ cts.	$ cts.
London, Ont.	251	209	91,200 04	178,273 79	269,473 83
Toronto, Ont.	514	420	226,775 53	334,026 51	560,802 04
Kingston, Ont.	412	364	190,288 73	276,884 05	467,172 78
Ottawa, Ont.	360	306	312,090 98	295,435 20	607,526 18
Montreal, Que.	310	273	111,211 46	218,916 96	330,128 42
Quebec, Que.	408	304	128,307 04	275,294 18	403,601 22
Halifax, N.S.	590	527	263,050 64	390,902 94	653,953 58
St. John, N.B.	65	50	38,748 64	51,069 96	89,818 60
Winnipeg, Man.	480	486	195,448 77	320,386 94	515,835 71
Victoria, B.C.	392	280	159,140 29	252,652 61	411,792 90
Regina, Sask.	55	44	34,950 08	44,915 45	79,865 53
Calgary, Alta.	194	156	84,170 92	136,616 70	220,787 62
Total	4,031	3,419	1,835,383 12	2,775,375 29	4,610,758 41

STATEMENT No. 3.—Statement of Expenditure on Account of Pay and Allowances of Officers and Warrant Officers of the Permanent Force.

DETAILS OF EXPENDITURE BY CORPS

Corps	Pay		Allowances				Total Allowances	Total Pay and Allowances	Credits to Public and Refunds	Net Expenditure Amount paid
	Regimental	Abroad	Quarters	Rations	Other	Dependents				
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Royal Canadian Dragoons	54,182 29	.....	2,510 96	4,434 65	10 40	6,366 72	13,322 73	67,505 02	6 88	67,498 14
Lord Strathcona's Horse (RC)	52,690 16	.....	3,762 74	4,871 06	.....	6,150 00	14,783 80	67,473 96	1 00	67,472 96
Royal Canadian Artillery	61,738 43	.....	4,918 10	5,139 00	449 97	7,079 50	17,586 57	79,325 00	26 78	79,298 22
Royal Canadian Horse Artillery	56,906 75	.....	3,846 76	6,819 89	.....	8,947 78	19,614 43	76,521 18	270 16	76,251 02
Royal Canadian Garrison Artillery	106,257 54	.....	7,684 13	10,919 23	17 08	14,385 11	33,005 55	139,263 09	161 24	139,101 85
Royal Canadian Machine Gun Bde	30,007 47	.....	2,254 32	2,782 19	6 54	3,096 18	8,139 23	38,146 70	26 04	38,120 66
Royal Canadian Engineers	152,009 01	.....	11,081 73	15,751 31	265 00	20,907 29	48,005 33	200,014 34	363 74	199,650 60
Royal Canadian Regiment	90,884 20	.....	5,858 81	7,350 17	693 06	10,962 05	24,864 09	115,748 29	39 41	115,708 88
Princess Patricia Canadian Light Inf.	66,834 61	.....	2,345 11	5,323 36	51 79	7,959 21	15,679 47	82,514 08	59 54	82,454 54
The Royal 22nd Regiment	30,649 43	.....	972 84	2,881 02	78 00	3,108 53	7,040 39	37,689 82	144 91	37,544 91
Royal Canadian Army Service Corps	116,224 01	.....	8,843 84	10,195 15	16 93	16,241 42	35,297 34	151,521 35	159 29	151,362 06
Royal Canadian Army Medical Corps	99,833 24	.....	8,026 56	7,967 19	3 00	9,316 47	25,313 22	125,146 46	51 69	125,094 77
Royal Canadian Army Veterinary Corps	27,198 39	.....	2,950 20	2,195 72	29 68	3,766 57	8,942 17	36,140 56	22 15	36,118 41
Royal Canadian Ordnance Corps	154,159 72	.....	13,752 01	15,764 52	.....	25,575 73	55,092 26	209,251 98	282 22	208,969 76
Royal Canadian Army Pay Corps	87,522 39	.....	8,269 83	8,101 26	.....	12,431 05	28,802 14	116,324 53	84 44	116,240 09
Corps of Military Staff Clerks	87,255 44	.....	8,224 52	10,405 34	.....	13,328 02	31,957 88	119,213 32	64 65	119,148 67
Royal Canadian Corps of Signals	22,015 03	.....	2,029 31	1,796 60	.....	2,421 58	6,247 49	28,262 52	11 22	28,251 30
Canadian Small Arms School	12,796 26	.....	1,520 47	1,056 67	.....	1,948 37	4,525 51	17,321 77	6 00	17,315 77
Instructional Cadre	90,356 48	.....	6,956 81	10,195 65	101 34	15,261 19	32,514 99	122,871 47	94 05	122,777 42
N.P.A.M. Officers attached to P.F.	7,003 09	.....	.....	.....	.....	.....	.....	7,003 09	.....	7,003 09
Total	1,406,523 94	.....	105,809 05	133,949 98	1,722 79	189,252 77	430,734 59	1,837,258 53	1,875 41	1,835,383 12

STATEMENT No. 4.—Statement of Expenditure on Account of Pay and Allowances of Officers and Warrant Officers of the Permanent Force.

DETAILS OF EXPENDITURE AT EACH STATION

Stations	Pay		Allowances				Total Allowances	Total Pay and Allowances	Credits to Public and Refunds	Net Expenditure Amount paid
	Regimental	Abroad	Quarters	Rations	Other	Dependents				
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
London, Ont.	71,155 59	.....	4,112 46	6,260 25	58 41	9,670 28	20,101 40	91,256 99	56 95	91,200 04
Toronto, Ont.	174,251 95	.....	13,479 74	16,216 07	40 08	22,856 97	52,592 86	226,844 81	69 28	226,775 53
Kingston, Ont.	143,294 98	.....	12,095 71	14,964 09	17 08	20,047 31	47,124 19	190,419 17	130 44	190,288 73
Ottawa, Ont.	232,996 45	.....	24,564 68	22,327 29	1,413 97	30,924 29	79,230 23	312,226 68	135 70	312,090 98
Montreal, Que.	86,596 92	.....	6,293 84	7,735 22	4 65	10,582 20	24,615 91	111,212 83	1 37	111,211 46
Quebec, Que.	101,737 85	.....	3,470 56	9,751 11	53 47	13,502 83	26,777 97	128,515 82	208 78	128,307 04
Halifax, N.S.	200,186 00	.....	15,358 14	19,646 86	34 50	28,008 04	63,047 54	263,233 54	182 90	263,050 64
St. John, N.B.	29,215 99	.....	2,347 25	2,873 55	.....	4,366 66	9,587 46	38,803 45	54 81	38,748 64
Winnipeg, Man.	156,732 18	.....	6,370 94	13,511 86	8 00	19,511 30	39,402 10	196,134 28	685 51	195,448 77
Victoria, B.C.	121,636 60	.....	8,484 12	11,972 57	82 63	17,090 16	37,629 48	159,266 08	125 79	159,140 29
Regina, Sask.	25,734 01	.....	2,690 58	2,684 51	10 00	3,990 32	9,375 41	35,109 42	159 34	34,950 08
Calgary, Alta.	62,985 42	.....	6,541 03	6,006 60	.....	8,702 41	21,250 04	84,235 46	64 54	84,170 92
Total	1,406,523 94	.....	105,809 05	133,949 98	1,722 79	189,252 77	430,734 59	1,837,258 53	1,875 41	1,835,383 12

STATEMENT No. 5.—Statement of Expenditure on Account of Pay and Allowances of Non-Commissioned Officers and Men of the Permanent Force.

DETAILS OF EXPENDITURE BY CORPS

Corps	Pay		Allowances				Total Allowances	Total Pay and Allowances	Credits to Public and Refunds	Net Expenditure Amount paid
	Regimental	Aroad	Quarters	Rations	Other	Dependents				
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Royal Canadian Dragoons	166,520 98	.....	5,506 55	10,509 00	241 87	11,031 18	27,288 60	193,809 58	2,794 10	191,015 48
Lord Strathcona's Horse	120,334 69	.....	3,667 65	5,892 00	99 33	7,207 34	16,866 32	137,201 01	3,807 02	133,393 99
Royal Candian Horse Artillery	184,345 31	.....	7,980 00	14,094 50	159 49	12,809 24	35,043 23	219,388 54	4,504 79	214,883 75
Royal Canadian Garrison Artillery	200,962 14	.....	6,510 95	15,468 50	97 64	17,635 54	39,712 63	240,674 77	1,365 73	239,309 04
Royal Canadian Machine Gun Brigade	35,963 03	.....	988 05	1,795 00	17 40	2,023 55	4,824 00	40,787 03	300 21	40,486 82
Royal Canadian Engineers	138,978 53	.....	8,092 70	12,678 00	201 06	14,390 36	35,362 12	174,340 65	661 84	173,678 81
Royal Canadian Regiment	244,821 57	.....	3,508 05	8,547 50	202 29	16,452 55	28,710 39	273,531 96	4,555 97	268,975 99
Princess Patricia's Light Infantry	159,740 28	.....	3,292 10	7,404 00	127 62	11,510 05	22,333 77	182,074 05	3,323 58	178,750 47
Royal 22nd Regiment	122,073 22	.....	5,671 75	9,594 00	137 92	8,290 17	23,693 84	145,767 06	3,108 30	142,658 76
Royal Canadian Army Service Corps	184,802 03	.....	17,366 20	25,682 50	73 33	26,389 57	69,511 60	254,313 63	1,236 83	253,076 80
Royal Canadian Army Medical Corps	56,669 75	.....	6,319 60	9,221 50	.....	8,333 49	23,874 59	80,544 34	95 58	80,448 76
Royal Canadian Army Veterinary Corps	2,048 80	.....	255 50	350 00	.....	200 00	805 50	2,854 30	.....	2,854 30
Royal Canadian Ordnance Corps	282,723 45	.....	34,915 65	51,663 25	16 90	45,672 42	132,268 22	414,991 67	2,557 95	412,433 72
R.C.O.C. (Caretakers Section)	51,615 00	.....	5,989 60	13,205 50	.....	12,505 98	31,701 08	83,316 08	3 85	83,312 23
Royal Canadian Army Pay Corps	44,399 30	.....	5,121 55	7,415 00	.....	7,641 09	20,177 64	64,576 94	321 07	64,255 87
Corps of Military Staff Clerks "A" Sec.	62,737 28	.....	7,005 25	10,227 00	10 65	9,901 13	27,144 03	89,881 31	229 64	89,651 67
Corps of Military Staff Clerks "B" Sec.	35,131 35	.....	5,545 05	7,755 50	.....	7,788 16	21,088 71	56,220 06	32 40	56,187 66
Corps of Military Staff Clerks "Records"	28,744 75	.....	3,713 50	5,305 00	.....	5,033 39	14,051 89	42,796 64	119 46	42,677 18
Instructional Cadre	55,768 62	.....	4,580 10	6,828 00	187 50	7,002 00	18,597 60	74,366 22	98 76	74,267 46
Canadian Small Arms School	1,019 00	.....	127 75	182 50	.....	200 00	510 25	1,529 25	.....	1,529 25
Royal Canadian Corps of Signals	24,833 60	.....	2,201 15	2,920 50	.....	1,614 46	6,736 11	31,569 71	42 43	31,527 28
Total	2,204,232 68	.....	138,358 70	226,738 75	1,573 00	233,631 67	600,302 12	2,804,534 80	29,159 51	2,775,375 29

STATEMENT No. 6.—Statement of Expenditure on account of Pay and Allowances of Non-Commissioned Officers and Men of the Permanent Force.

DETAILS OF EXPENDITURE AT EACH STATION

Stations	Pay		Allowances				Total Allowances	Total Pay and Allowances	Credits to Public and Refunds	Net Expenditure Amount paid
	Regimental	Abroad	Quarters	Rations	Other	Dependents				
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
London, Ont.	143,276 41	.....	5,671 40	12,842 00	16 55	17,711 33	36,241 28	179,517 69	1,243 90	178,273 79
Toronto, Ont.	267,082 71	.....	17,541 65	28,192 25	273 41	24,581 10	70,588 41	337,671 12	3,644 61	334,026 51
Kingston, Ont.	214,948 66	.....	15,939 25	25,646 00	101 15	22,745 12	64,431 52	279,380 18	2,496 13	276,884 05
Ottawa, Ont.	198,543 56	.....	26,314 05	37,852 00	14 40	34,932 58	99,113 03	297,656 59	2,221 39	295,435 20
Montreal, Que.	178,483 23	.....	9,699 20	16,705 50	134 50	15,870 39	42,409 59	220,892 82	1,975 86	218,916 96
Quebec, Que.	217,474 44	.....	15,152 20	24,964 50	236 49	20,819 40	61,172 59	278,647 03	3,352 85	275,294 18
Halifax, N.S.	326,452 74	.....	11,448 45	20,356 00	366 12	35,047 16	67,217 73	393,670 47	2,767 53	390,902 94
St. John, N.B.	34,438 02	.....	4,569 60	7,026 00	.....	5,131 29	16,726 89	51,164 91	94 95	51,069 96
Winnipeg, Man.	284,610 88	.....	8,242 15	13,804 50	202 96	20,842 58	43,092 19	327,703 07	7,316 13	320,386 94
Victoria, B.C.	203,299 17	.....	10,901 45	20,107 50	117 08	20,118 14	51,244 17	254,543 34	1,890 73	252,652 61
Regina, Sask.	30,621 65	.....	4,090 45	5,984 00	.....	4,405 19	14,479 64	45,101 29	185 84	44,915 45
Calgary, Alta.	105,001 21	.....	8,788 85	13,258 50	110 34	11,427 39	33,585 08	138,586 29	1,969 59	136,616 70
Total	2,204,232 68	.....	138,358 70	226,738 75	1,573 00	233,631 67	600,302 12	2,804,534 80	29,159 51	2,775,375 29

APPENDIX C

REPORT OF THE SUPERINTENDENT, DOMINION ARSENAL, QUEBEC

EMPLOYEES

The average number of employees throughout the year was 244.

FINANCIAL STATEMENTS

1. Appropriation and Expenditure.
2. Statement of Moneys Received and Deposited to credit of Receiver General.
3. Distribution of Disbursements.
4. Statement of Assets and Liabilities.
5. Capital Account.
6. Production Statement.
7. Reconciliation Statement.

Appropriation and Expenditure, 1922-23.

Total Letter of Credit		$369,000 00	
Balance lapsed unexpended		3,155 55	
Gross expenditure at Quebec			$ 365,844 45
Gross expenditure at Ottawa			33,274 84
			$399,119 29
Less refunds to current year's expenditure	18,005 36		
Less credit from H.Q. for cost of repairing 200 cartridge boxes received from Overseas	1,713 37		
		19,718 73	
Expenditure charged to Dominion Arsenal, Quebec Vote			$374,457 96
Expenditure charged to Bonus Vote No. 563			4,066 83
Expenditure charged to Customs Dues Vote			875 77
		$379,400 56	$379,400 56

Statement of Money Received and Deposited to Credit of Receiver General.

Petty cash		$ 50 00	
R.C.M.P. for ·303" ammunition		11,928 00	
Balance salary and wages account		3,357 35	
Nichols Chemical Co		135 46	
Refund of Sales Tax		103 90	
Refund D.E.O., M.D. 5		1,474 39	
For cartage and labour		17 47	
		$17,066 57	
Refund of customs dues		528 07	
Refund of Bonus Vote 563		410 72	
Refund to current year's expenditure		18,005 36	
Receipts from sales of scrap		82,188 47	
Receipts from sales of finished goods		90 00	
Returned barrels and other refunds		362 74	
Amount credited to current year's expenditure	(Dominion Arsenal Vote)		$ 17,066 57
" " "	(Customs Dues Vote)		528 07
" " "	(Bonus Prov. Vote 563)		410 72
Amount credited to Casual Revenue			82,641 21
		$100,646 57	$ 100,646 57

Distribution of Disbursements

Dominion Arsenal, Quebec, Vote—		
Wages	$ 216,624 09	
Salaries	43,432 06	
Other materials, including oils, hardware, castings, acids, factory and chemical supplies	27,644 00	
Fuel	20,987 32	
Copper	13,561 09	
Cordite	11,518 60	
Power and light (including gas purchased)	10,952 66	
District Engineer Officer, M.D. No. 5, for wages and material (repairs *re* fire loss)	10,525 61	
Bandoliers	6,601 83	
Cartage	2,565 53	
Water	1,800 00	
Freight, transport (except cartage) and travelling expenses	1,689 86	
Telegrams, telephones, postage, printing and stationery	1,545 70	
Aluminum	1,094 08	
Equipment	1,038 64	
Lumber	1,008 18	
Gratuities to employees	707 52	
Tin	463 29	
Steel	317 64	
Machinery	130 00	
Belting	14 74	
Office furniture and fixtures	6 00	
Miscellaneous	229 52	
		$ 374,457 96
Customs Dues Vote		875 77
Bonus, Vote No. 563		4,066 83
		$379,400 56

Statement of Assets and Liabilities, March 31, 1923.

	Assets	Liabilities
Material in stores	$ 234,041 95	
Inventory of work in process and finished goods	212,690 55	
Lands	299,000 00	
Buildings	249,788 38	
Machinery	205,779 25	
Equipment, general	15,466 82	
Belting	1,023 15	
Gauges	7,500 00	
Tools, loose	39,714 94	
Office furniture and fixtures	1,986 33	
Accounts payable		$ 3,211 03
Surplus, Department of National Defence		1,263,780 34
	$1,266,991 37	$1,266,991 37

Capital Account

To balance for Net Capital, Apri. 1, 1922—		
Buildings	$ 243,010 24	
Machinery	209,653 28	
Belting	1,304 35	
Equipment, general	16,800 20	
Office furniture and fixtures	2,088 39	
Tools, loose	33,327 77	
Gauges	7,500 00	
		$ 513,684 23
To Accruement in 1922-23—		
On land (acreage, covered by Arsenal Buildings— Valuation not shown on previous statements : H.Q. 64-34-63)	$ 299,000 00	
On Buildings	14,121 61	
" Machinery	17,134 56	
" Belting	275 84	
" Equipment, general	3,761 33	
" Office furniture and fixtures		
" Tools, loose	12,474 48	
		$346,767 82
		$860,452 05

By Depreciation in 1922-23—		
Buildings	$ 7,343 47	
Machinery	21,008 59	
Belting	557 04	
Equipment, general	5,094 71	
Office furniture and fixtures	102 06	
Tools, loose	6,087 31	
		$ 40,193 18
By balance Account for Net Capital, March 31, 1923—		
Land	$ 299,000 00	
Buildings	249,788 38	
Machinery	205,779 25	
Belting	1,023 15	
Equipment, general	15,466 82	
Office furniture and fixtures	1,986 33	
Tools, loose	39,714 94	
Gauges	7,500 00	
		$ 820,258 87
		$860,452 50

Statement of Production and Costs

	Production			Net Cost	Cost of Living Bonus	Rate plus Cost of Living Bonus	Per	Gross Cost
	Quantity	Rate	Per					
		$		$ cts.	$ cts.	$		$ cts.
Deliveries of Finished Goods								
Boxes, ammunition, S.A. 1,000 rounds ·303", in chargers	6,310	3·195	each	20,157,73	202 90	3·2267	each	20,360 63
Boxes, ammunition, Q.F. 18-pounder C/151, Mk. I	46	6·378	"	293 39	2 95	6·442	"	296 34
Boxes, ammunition, ·22" calibre	100	0·9624	"	96 24	0 96	0·972	"	97 20
Boxes, wood, packing	28	2·492	"	69 77	0 70	2·518	"	70 47
Cartridges, S.A. Ball, ·303" Cordite, Mk. VII	5,000,000	57·6205	1,000	288,102 50	2,899 35	58·200	1,000	291,001 85
Cartridges, S.A. Ball, ·303" Cordite, Mk. VII, D.R.A	200,000	60·0383	"	12,007 67	120 80	60·642	"	12,128 47
Cartridges, S.A. Blank, ·303"	1,500,000	32·637	"	48,956 52	492 40	32·966	"	49,448 92
Cartridges, S.A. Dummy, ·303" Mk. VII	500,000	37·7893	"	18,894 63	190 00	38·1693	"	19,084 63
Cartridges, ·22" Long Rifle	220,300	7·535	"	1,660 06	16 70	7·611	"	1,676 76
Cartridges, Rifle Grenade, 43 grs	9,953	6·626	"	658 01	6 60	6·68	"	664 61
Cartridges, Rifle Grenade, 30 grs	2,000	9·70	"	194 01	1 95	9·7548	"	195 96
Cartridges, Drill, tubes percussion	1,000	143·05	"	143 05	1 44	144·49	"	144 49
Cartridges, Q.F. 18-pr. Filling and re-packing with Dominion Arsenal new cases	63	6·98	each	439 74	4 41	7·05	each	444 1
Grenades, ·303" Rifle Practice, No. 36, converted from "Mills"	2,317	1·33761	"	3,099 25	31 18	1·351	"	3,130 43
Grenades, discs and plugs for	4,634	0·49154	"	2,277 93	22 90	0·4964	"	2,300 83
Miscellaneous services for Chief Inspector of Ammunition	.....	.....	.....	1,222 52	12 30	.....	.....	1,234 82
Puffs, Powder, R.L.G. 2	1,000	0·06683	each	66 83	0 67	0·0675	each	67 50
Puffs, Powder, 4 drs. R.F.G. 2	1,000	0·16895	"	168 95	1 70	0·17065	"	170 65
Puffs, Powder, 4 oz	500	0·04708	"	23 55	0·24	0·0476	"	23 79
Puffs, Powder, 2 oz	500	0·04186	"	20 91	0 21	0·04224	"	21 12
Repairs								
Boxes, ammunition, S.A. 1,000 rounds, ·303", in chargers	1,390	1·833	each	2,547 92	25 62	1·8515	each	2,573 54
Boxes, ammunition, S.A., Mk. XV	135	1·4936	"	201 63	2 02	1·508	"	203 65
Miscellaneous repairs for Ordnance Stores, M.D. No. 5	.....	.....	.....	2,126 50	21 40	.....	.....	2,147 90
Numerals cleaned and polished	434,001	0·16677	100	723 37	7 28	0·1683	100	730 65
Time recorder repaired	.....	.....	.....	14 70	0 15	.....	.....	14 85
				404,167 38	4,066 83	.....	.....	408,234 21

Reconciliation Statement

Inventory of work in process and finished goods, March 31, 1922			$ 306,580 57
Inventory of material in stores, March 31, 1922			153,549 77
Value of capital assets, March 31, 1922			513,684 23
Land (acreage covered by Arsenal buildings—Valuation established by H.Q. 64-34-63 and taken on in 1922–23)			299,000 00
Net expenditure, 1922–23			379,400 56
Additions and renewals by Engineers, M.D. No. 5, not paid for by Arsenal Funds			6,102 84
Accounts receivable, March 31, 1922			393 64
Accounts payable, March 31, 1923			3,211 03
Machinery, equipment, stores, and semi-manufactured components transferred from Lindsay Arsenal to Quebec (H.Q. 72-13-19)		194,889 36	
Inventory of work in process and finished goods, March 31, 1923			$ 212,690 55
Inventory of material in stores, March 31, 1923			234,041 95
Value of Capital Assets, March 31, 1923			820,258 87
Finished goods delivered during year, as per production Statement			408,234 21
Bandoliers supplied to Chief Inspector of Ammunition			6,601 83
Repairs in connection with fire loss—			
Wages	$ 23,668 92		
Material	16,980 34		
Overhead	16,816 65		
			57,465 91
Refunds credited to Casual Revenue			82,641 21
Gratuities to employees on release from service			707 52
Amount written off semi-manufactured components received from Lindsay Arsenal			11,291 59
Salary adjustments to employees under re-classification, not chargeable to 1922–23 accounts			6,674 30
Accounts payable, March 31, 1922			16,204 06
		$ 1,856,812 00	$ 1,856,812 00

APPENDIX D

REPORT OF THE DOMINION ARSENAL, LINDSAY.

Operations ceased March 31, 1922, 4 Caretakers employed.

FINANCIAL STATEMENTS

1. Dominion Arsenal, Lindsay Vote.
2. Appropriation and Expenditure.
3. Statement of Moneys Received and Deposited to credit of Receiver General.
4. Distribution of Disbursements.
5. Statement of Assets and Liabilities.
6. Capital Account.
7. Reconciliation Statement.

DOMINION ARSENAL, LINDSAY VOTE

Amount voted for 1922–23	$25,000 00
Expenditure charged to Dominion Arsenal, Lindsay Vote	20,669 64
Unexpended balance, Lindsay Vote	$ 4,330 36

APPROPRIATION AND EXPENDITURE

Total letter of credit	$18,000 00	
Balance lapsed, unexpended	1,410 78	
Gross expenditure at Lindsay	$16,589 22	
" " Ottawa	6,308 40	
	$22,897 62	
Less refunds credited to current year's expenditure	379 73	
Expenditure charged to Dominion Arsenal, Lindsay Vote		$20,669 64
Expenditure charged to Engineer Services and Works, Vote		207 69
Expenditure charged to Ordnance Arms, Lands, etc., Vote		160 37
Expenditure charged to Transport and Freight, Vote		168 55
Expenditure charged to Warlike Stores, Vote		9 40
Expenditure charged to provisional bonus allowance, Vote		1,302 24
	$22,517 89	$22,517 89

STATEMENT of Monies Received and Deposited to credit of the Receiver General

Refund of advances	$ 378 28	
Bell Telephone Co	1 45	
	$ 379 73	
Canada Metal Company	4,529 80	
Horn Bors	2,075 80	
Canadian Explosives, Ltd	1,931 05	
Frankel Bros	703 58	
Boving Hydraulic and Engineering Co., Ltd	680 10	
Louis Lovitz	548 73	
McLean Wheel Works	370 98	
W. R. Cuthbert & Co	295 84	
Board of Water Commissioners, Lindsay, Ont	270 18	
R. A. Nugent	175 00	
Ingle Planing Mills	96 05	
John Hartwick	71 15	
W. Pogue	55 00	
John Ruck	50 00	
John McCrae Machine & Foundry Co	15 98	
Amount credited to current year's expenditure		$ 379 73
Amount credited to casual revenue accounts receivable 1921–22		53 55
Amount credited to casual revenue, 1922–23		11,815 69
	$12,248 97	$12,248 97

DISTRIBUTION of Disbursements

Dominion Arsenal, Lindsay Vote—			
Salaries and wages		$10,398 54	
Gratuities on discharge		1,754 56	
Electricity		616 40	
Water		591 19	
Freight, transport and travelling expenses		6,600 78	
Railway siding rental		131 78	
Repairs, supplies, etc		441 85	
Postage, telegrams and telephones		134 54	
			$20,669 64
Engineer Services and Works Vote—			
Gratuity on discharge (plumber and assistant)		$ 207 69	
			207 69
Ordnance Arms, Lands, etc., Vote—			
Salary	$ 28 17		
Gratuity on discharge (leave with pay)	130 00		
		$ 158 17	
Telephones and telegrams		2 20	
			160 37
Transport and Freight Vote		$ 168 55	
			168 55
Warlike Stores Vote		$ 9 40	
			9 40
Provisional Bonus Allowance Vote		$ 1,302 24	
			1,302 24
			$22,517 89

STATEMENT of Assets and Liabilities, March 31, 1923

	Assets	Liabilities
Accounts receivable	$ 3,094 00	
Material in stores	4,235 82	
Tools and scrap on hand	55,707 58	
Lands	39,943 97	
Buildings	731,892 07	
Machinery	311,961 45	
Equipment	31,726 95	
Shafting and pulleys	25,674 61	
Belting	6 72	
Railway siding	4,725 51	
Track scales	3,825 11	
Chemical apparatus	244 60	
Gas apparatus	33,945 99	
Heating apparatus, boiler house	14,231 17	
Roads	3,637 96	
Fences and sidewalks	3,193 74	
Sewers	28,018 23	
Traverses and drainage at magazines	5,162 37	
" " filling plant	1,851 05	
Pipe trench, rolling mill to office	1,785 00	
" " boiler house to filling plant	5,928 06	
Accounts payable		$ 23,604 20
Surplus Department National Defence		1,287,187 76
	$ 1,310,791 96	$ 1,310,791 96

CAPITAL ACCOUNT

——	Net Capital March 31, 1922	Transfer and Sales During 1922–23	Net Capital March 31, 1923
	$ cts.	$ cts.	$ cts.
Land	39,943 97	.....	39,943 97
Buildings	731,892 07	.....	731,892 07
Machinery	313,965 81	2,004 36	311,961 45
Equipment	31,951 57	224 62	31,726 95
Shafting and pulleys	25,674 61	.....	25,674 61
Belting	6 72	.....	6 72
Railway siding	4,725 51	.....	4,725 51
Track scales	3,825 11	.....	3,825 11
Chemical apparatus	33,945 99	.....	33,945 99
Heating apparatus, boiler house	14,231 17	.....	14,231 17
Roads	3,637 96	.....	3,637 96
Fences and sidewalks	3,193 74	.....	3,193 74
Sewers	28,018 23	.....	28,018 23
Traverses and drainage magazines	5,162 37	.....	5,162 37
Traverses and drainage filling plant	1,851 05	.....	1,851 05
Pipe trench rolling mill to office	1,785 00	.....	1,785 00
Pipe trench boiler house to filling plant	5,928 06	.....	5,928 06
	1,249,983 54	2,228 98	1,247,754 56

Reconciliation Statement March 31, 1923.

Inventory of work and scrap on hand, March 31, 1922	$ 43,755 85		
Adjustment account of revised values of inventory of March 31, 1922	11,951 73		
		$ 55,707 58	
Inventory of material in stores, March 31, 1922		38,293 09	
Net expenditure, 1922–23		22,517 89	
Capital Account, March 31, 1922		1,249,983 54	
Sales—Rental—			
Material	$ 11,137 89		
Scrap	1,768 45		
Machinery	175 00		
Hay	121 15		
Rental of grounds	50 00		
		15,129 99	
Accounts receivable, March 31, 1922		53 55	
Accounts payable, March 31, 1923		23,604 20	
Inventory of work and scrap on hand, March 31, 1923			$ 55,707 58
Inventory of material on hand, March 31, 1923			4,235 82
Capital Account, March 31, 1923			1,247,754 56
Machinery and equipment transferred to Dominion Arseral, Quebec	$ 1,896 75		
Material transferred to Dominion Arsenal, Quebec	10,188 04		
			12,084 79
Other Disposals—			
Machinery	$ 200 00		
Equipment without repayment	132 23		
Material (fuel) without repayment	2,008 39		
Material (fuel) consumed at Arsenal	387 00		
Material, scrap, etc., sold	21,473 84		
			24,201 46
Deposit received in 1921–22, a, c sales 1922–23	$ 220 30		
Receipts for sales, 1922–23	11,815 69		
Receipts for accounts receivable, 1921–22	53 55		
			12,089 54
Maintenance expense, etc., 1922–23			16,837 65
Accounts payable, March 31, 1922	$ 29,651 46		
Less adjustments	367 02		
			29,284 44
Accounts receivable, March 31, 1923			3,094 00
		$ 1,405,289 84	$ 1,405,289 84

Stock on Hand March 31, 1923.

——	Quantity	Value
		$ cts.
Blankets, G.S., unserviceable	129	33 57
Glass, gage	24	6 32
Japan, black	38⅛ gals.	32 62
Lapidolith	7	15 83
Line, reel, chalk and awl	4	35
Coal, Blacksmith	7,375 lbs.	31 62
" Egg	4,000 "	15 64
" Steam	*701,908 "	2,595 71
Coke	39,099 "	307 57
Oil, cylinder	76¾ gals.	48 72
" " (cap)	9½ "	6 87
" dynamo	111⅝ "	38 65
" lard	169½ "	199 16
" linseed (boiled)	5 7/16 "	10 04
" " (raw)	23¾ "	32 74
" machine	90½ "	37 73
" motor	14½ "	7 73
" porpoise	50⅔ "	78 57
" rope	98 "	363 87
" special roll	62 "	40 80
" seal	7½ "	9 59
" " mineral	127⅞ "	55 39
" whale	62¾ "	65 89
Turpentine	26⅞ "	36 12
Packing, leather	1	20 21
" material (flax coil)	3 lbs.	3 57
Paper, toilet	179 rolls	11 14
Plates, name, "Lindsay"	259	21 90
Protecto (for boiler house)	699 lbs.	72 13
Drums, empty, for above	2	15 00
Scales No. 506	1	12 50
Discs, Jenkins	32	4 85
Soap, Sunlight	10 lbs.	1 40
Soda, ash	15 "	59
" caustic	7½ "	71
" sal	30 "	72
		4,235 82

*Amount and value at March 31, 1922. No vouchers received for amount consumed during April and part of May, 1922. Caretaker estimates about 200,000 lbs. on hand.

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REPORT OF THE DEPARTMENT

OF

NATIONAL DEFENCE

(NAVAL SERVICE)

CANADA

FOR THE

FISCAL YEAR ENDING MARCH 31

1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

OTTAWA, August 9, 1923.

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to submit herewith for the information of Your Excellency and the Parliament of Canada, the First Annual Report of the Department of National Defence (Naval Service), being for fiscal year 1922-23.

I have the honour to be,

Your Excellency's most obedient servant,

E. M. MACDONALD,
Acting Minister of National Defence.

OTTAWA, August 8, 1923.

The Honourable
The Minister of National Defence,
Ottawa, Ont.

SIR,—I have the honour to enclose herewith Annual Report of the Department of National Defence (Naval Service) for the fiscal year ended March 31, 1923.

I have the honour to be, sir,

Your obedient servant,

G. J. DESBARATS,
Acting Deputy Minister.

OTTAWA, May 21, 1923.

G. J. DESBARATS, Esq., C.M.G.,
Deputy Minister, Department of National Defence,
Ottawa, Ont.

SIR,—I have the honour to report on the Department of National Defence (Naval Service) for the fiscal year ended March 31, 1923, under the following headings:—

1. H.M.C. Ships.
2. R.C.N. Establishments.
3. H.M.C. Dockyards.
4. Naval Intelligence.
5. Royal Canadian Naval Personnel.
6. Civilian Employees of the Naval Service.
7. Naval Stores.
8. General.
9. Financial Statement.

1. H.M.C. SHIPS

The annual report of the Department of Naval Service for the fiscal year 1921-22 gave full particulars of H.M.C. ships up to and including June 30, 1922. The following report covers the activities of H.M.C. ships from July 1, 1922, to March 31, 1923.

On July 1, H.M.C.S. *Patriot* and *Patrician* were the only two ships of the Canadian Navy in commission; both ships were at Halifax.

H.M.C.S. "PATRIOT"

The Royal Navy ratings in H.M.C.S. *Patriot* were discharged and replaced by young Canadians. The *Patriot's* crew was accordingly nearly 40 per cent untrained, and the ship was used entirely for training purposes. During the year she carried out cruises as follows:—

From August 14 to September 2 the ship visited Shelburne, Liverpool, Lunenburg, Chester and St. Margaret's Bay.

This cruise was entirely for training purposes and elementary training in gunnery, torpedo and seamanship was given. The cruise was successful from a training point of view and the ship was well received at each place visited.

On September 19, *Patriot* was sent to Lunenburg to take part in the celebration of Fishermen's Day (September 20). From Lunenburg the ship proceeded to Halifax for refit.

During October the ship was placed at the disposal of the Fishing Schooner Race Committee to assist in the elimination races in preparation for the International schooner race. The vessel rendered valuable assistance in the regulating of the race, generally, and continual use of her services was made.

The ship was opened to visitors at each of the Canadian ports at which she called and was on such occasions continually crowded with visitors. The visitors, particularly those following the sea, were very interested in the ship's appliances and in many instances requested to be taken on cruises.

On October 13 she proceeded to Gloucester, Mass., with the schooner *Bluenose* in tow for the international schooner race. While at Gloucester she was at the disposal of the Canadian Race Committee. The members of the Canadian Race Committee expressed to the department their appreciation of the services rendered by the *Patriot* throughout the races.

After the races the *Patriot* brought back to Lunenburg the body of Captain Bert Demore, of the schooner *Bluenose*, who was accidentally drowned at Gloucester.

Upon returning from the international schooner races the *Patriot* remained at Halifax, while her ship's company took their summer's leave.

On December 27 *Patriot* sailed for Bermuda. The passage was an unusually stormy one but the ship arrived at Bermuda on December 29 without sustaining any damage. The passage to Bermuda, under the weather conditions existing, was a creditable feat for a ship of this class, and not only proved the seaworthiness of the ship but also the ability of her Commanding Officer and complement.

Upon arrival at Bermuda training was carried out and all facilities were given to the ship's company by the Commander-in-Chief, North America and West Indies Station, who arranged for the training facilities of H. M. ships at Bermuda to be available to the ship's company of the *Patriot*. Instructors from the Imperial ships were loaned whenever required. The facilities given are highly appreciated by the department, as without the help of the Imperial authorities training would have been greatly handicapped. I wish to take this opportunity of expressing appreciation to the Commander-in-Chief, North American and West Indies Squadron.

The training cruise to Bermuda has resulted in a marked improvement in the whole ship's company and the officers and men are evincing a very keen interest in their work.

The *Patriot* returned to Halifax on March 17, 1923. The ship remained at Halifax, under refit, up to March 31, 1923.

The following is a detailed statement of movements of H.M.C.S. *Patriot*:—

MOVEMENTS OF H.M.C.S. *PATRIOT* FROM MARCH 30, 1922, TO MARCH 31, 1923

Sailed	For	Arrived
Trinidad, B.W.I.		
30-3-22	Bermuda	4-4-22
8-4-22	Halifax, N.S.	11-4-22
14-8-22	Shelburne	15-8-22
21-8-22	Liverpool, N.S.	21-8-22
23-8-22	Lunenburg, N.S.	23-8-22
26-8-22	Chester	26-8-22
31-8-22	St. Margaret's Bay	(Exercising)
1-9-22	Halifax	1-9-22
19-9-22	Lunenburg	19-9-22
21-9-22	Halifax	21-9-22
11-10-22	Gloucester, Mass.	14-10-22
27-10-22	Boston	27-10-22
29-10-22	Lunenburg	30-10-22
30-10-22	Halifax	30-10-22
27-12-22	Bermuda	29-12-22
15-3-23	Halifax	17-3-23

H.M.C.S. "PATRICIAN"

From July 1 to August 14 the *Patrician* was stationed at Halifax. Between August 14 and September 2 the following Canadian ports were visited by the *Patrician* in company with *Patriot*:—Shelburne, Liverpool, Lunenburg, Chester and St. Margaret's Bay.

The *Patrician* also accompanied *Patriot* to Pictou on September 13 for the celebrations there and then proceeded to Lunenburg for the Fishermen's Day celebrations on September 20. She then returned to Halifax to prepare for her voyage to Esquimalt, on which station she has been placed.

The *Patrician* left Halifax for Esquimalt on October 1, and called at the following places:—Bermuda, Jamaica, Balboa, La Libertad, San Pedro, and Esquimalt.

At La Libertad the *Patrician* was in company with H.M.S. *Capetown*. Her 3,600 mile cruise was completed on October 30, on which date she arrived at Esquimalt. The port was reopened as a naval base and during November the *Patrician* was engaged in organization duties.

On December 5 she proceeded on a cruise to Prince Rupert. This cruise gave the officers and men an opportunty of obtaining local knowledge of the west coast. The distance covered was approximately 1,100 miles. The inland shipping route was followed and valuable knowledge obtained, as the currents and tides of this route are intricate. Stops of one day were made at each of the following places:—Comox, Alert Bay, Prince Rupert, Nanaimo and Vancouver.

The *Patrician* returned to Esquimalt on December 19, and was refitted. She remained at her base at Esquimalt during the remainder of the year.

The following is a detailed statement of the movements of H.M.C.S *Patrician*:—

MOVEMENTS OF H.M.C.S. *PATRICIAN* FROM MARCH 30, 1922, TO MARCH 31, 1923

Sailed	For	Arrived
Trinidad, B.W.I.		
30-3-22	Bermuda	4-4-22
8-4-22	Halifax, N.S.	11-4-22
14-8-22	Shelburne	15-8-22
21-8-22	Liverpool, N.S.	21-8-22
23-8-22	Lunenburg	23-8-22
26-8-22	Chester	26-8-22
31-8-22	St. Margaret's Bay	(Exercising)
1-9-22	Halifax	1-9-22
14-9-22	Pictou	14-9-22
16-9-22	Halifax	16-9-22
19-9-22	Lunenburg	19-9-22
21-9-22	Halifax	21-9-22
1-10-22	Bermuda	3-10-22
4-10-22	Kingston, Ja.	8-10-22
11-10-22	Balboa	13-10-22
14-10-22	La Libertad, Salvador	16-10-22
17-10-22	Acapulco, Mexico	19-10-22
20-10-22	San Pedro, Cal.	25-10-22
27-10-22	Esquimalt	30-10-22
5-12-22	Comox	5-12-22
6-12-22	Menzies Bay	6-12-22
7-12-22	Alert Bay	7-12-22
9-12-22	McLaughlin Bay	9-12-22
10-12-22	Lowes Inlet	10-12-22
11-12-22	Prince Rupert	11-12-22
13-12-22	Carter Bay	13-12-22
14-12-22	Safety Cove	14-12-22
15-12-22	Blinksop Bay	15-12-22
16-12-22	Nanaimo	16-12-22
17-12-22	Vancouver	17-12-22
18-12-22	Esquimalt	18-12-22

MINESWEEPERS

During the year the *Festubert* and *Ypres* (east coast), *Armentieres* and *Thiepval* (west coast) were refitted preparatory to being placed in commission. These vessels are to be used for training the Reserve Forces and active service

ratings in minesweeping and hydrophone work, and also for giving recruits coastal knowledge. The complements of the minesweepers will live in barracks when not actually at sea. These complements will be utilized for the training of Reserve Forces.

SHIPS IN RESERVE

H.M.C.S. *Aurora* and submarines *C.H. 14* and *C.H. 15* have been placed out of active commission and are held in reserve. These ships are being kept in good condition and are not deteriorating. The submarines, particularly, are being maintained so that they may be brought into active commission at short notice should they be required.

2. R. C. N. ESTABLISHMENTS

R. C. N. BARRACKS, HALIFAX

The Royal Canadian Naval Barracks, Halifax, is established solely for training purposes for ratings of the Royal Canadian Navy, Royal Canadian Naval Reserve and Royal Canadian Naval Volunteer Reserve.

During the past year training was handicapped owing to the reduction in the instructional staff, and the reorganization of the barracks. During the three months preceding March 31, however, a marked improvement has been noticed and a large number of volunteers to sit for the higher educational test for advancement to Petty Officer have been given necessary educational training. Classes of young seamen and boys have been under continual instruction for advancement to Able Seamen. There are at present forty-two (42) of these younger ratings under instruction, all of whom are Canadians. They are showing keen interest in their profession and the reports on their development indicate that they will render highly efficient service as members of the Royal Canadian Navy.

For the purpose of giving efficient training the following new facilities have been added:—

(*a*) Drill shed.
(b) Gun battery.
(*c*) Parade ground.

Drill Shed.—This building was constructed during the war. Since the termination of hostilities it has been used for the storage of guns and mountings. It has, however, again been fitted as a drill shed and will be used in the training of all ratings of the service, and also for training men in cold or bad weather.

Gun Battery.—This Battery is being equipped with all the latest gunnery training appliances, including guns of all caliber of 6-inch and below, fire-control system, shooting teachers, light director installation and modern range-finder appliances. It will give the service a complete shore training establishment wherein R.C.N. ratings may be given detailed instructions in stripping, gun drill, etc., on shore.

Parade Ground.—A suitable parade ground is of primary necessity in disciplinary training. Rifle and marching exercises have been found, from experience, to be the only certain solution of disciplinary training, which is the teaching of men to obey orders. The parade ground which has been built at the R.C.N. barracks, Halifax, will provide facilities for the proper training of ratings generally.

The facilities and equipment for training at the R.C.N. barracks, Halifax, have now been placed on a modern basis and up-to-date instruction in various

branches has now been rendered possible. These facilities will be used for training members of the Royal Canadian Navy, Royal Canadian Naval Reserve and Royal Canadian Naval Volunteer Reserve.

R.C.N. BARRACKS, ESQUIMALT

The Royal Canadian Naval Barracks, Esquimalt, have been organized in the building formerly used for the Naval Hospital. They will contain the same training facilities as the R.C.N. Barracks, Halifax, and will be organized along the same lines.

TRAINING

Since July 1, 1922, ten (10) lieutenants of the Royal Canadian Navy have been sent to England to qualify in specialist naval subjects, including signalling, torpedo, intelligence, navigation, physical and recreational training, gunnery, etc.

Thirty-four (34) naval ratings have also been sent to England for special qualifying course as follows:—

1 Petty Officer for Gunlayer 1st Class.
1 Leading Seaman for Gunlayer 2nd Class.
2 Leading Seamen for Light Director Layer.
1 Ordnance Artificer.
1 Electrical Artificer.
2 Leading Signalmen for Yeoman of Signals.
1 Shipwright for Artificer Diver.
9 Able Seamen for Seamen Torpedoman.
15 Able Seamen for Seamen Gunner.
1 Able Seaman for Leading Torpedoman.

The facilities which the British Admiralty have placed at the disposal of the department for the training of naval ratings at the Specialist Schools have been valuable.

Young Canadians who are entering the Royal Canadian Navy receive the same facilities for specializing as Royal Naval ratings and the whole Royal Canadian Naval Force is quickly developing into a highly trained and efficient fighting unit.

The department very highly appreciates the facilities which the British Admiralty are giving for the training up of young Canadian officers and Men.

3. H.M.C. DOCKYARDS

HALIFAX DOCKYARD

During the year, with the curtailing of the activities of the Squadron, resulting in the placing in reserve of H.M.C.S. *Aurora* and H.M.C. submarines *C.H. 14* and *C.H. 15*, steps were taken to reduce the Dockyard personnel and place the establishment on a semi-closed basis temporarily, following the refits of H.M.C.S. *Patriot* and *Patrician* and the laying up of the ships for reserve.

Prior to the closing down of the Dockyard, work was performed to ships of other Government departments, and afterwards minor repairs necessary to maintain the Establishment in a condition of good repair and preservation were carried out, also work in preparation for the new Training Establishment. Specifications were prepared for work necessary to ships and other works and supervision of a technical nature provided as required.

ESQUIMALT DOCKYARD

The general operation of this Dockyard as a repair base was restricted, being a continuation of the 1921-22 policy. Greater minor activities, however, were experienced, due principally to a Training Squadron being based in this district.

Much technical assistance was afforded other Government services with regard to ships, and work performed in the preparation of specifications and supervision of work carried out by contract.

4. NAVAL INTELLIGENCE

The Naval Intelligence Branch of the Naval Service, which was reorganized and brought into line with Admiralty Intelligence Services early in 1921, has functioned well during the past fiscal year.

In addition to the routine reports on Naval Intelligence, Shipping, Trade Routes, etc., in the Ottawa area, a Coast Report of the principal Canadian Ports has been undertaken. The Department of Public Works and the Harbour Commissioners of Montreal are co-operating with the Naval Intelligence authorities in compiling the information and have given valuable assistance.

The whole Intelligence Service is developing along lines highly satisfactory to the Admiralty and to the Canadian Naval authorities, and new spheres of activity are being gradually taken over by the branch.

Co-operation between the Canadian Naval, Militia and Air Services has been established. Under the Department of National Defence the three services are enabled to co-operate in the closest possible manner.

5. ROYAL CANADIAN NAVAL PERSONNEL

ROYAL CANADIAN NAVY

The personnel of the Royal Canadian Navy is composed of 405 officers and men of the Royal Canadian Navy. Under present organization this constitutes the permanent Naval Force of Canada.

The officers and men are allocated to the Naval Barracks, Halifax and Esquimalt, and H.M.C.S. *Patriot* and *Patrician*. A number are also undergoing courses at English Training Schools and some of the officers and men are on loan to ships of the Royal Navy.

On July 1, 1922, the total Naval personnel of the Royal Canadian Navy was reduced to meet the requirements of the reorganized Naval Service under the Department of National Defence. Imperial ratings, who were on loan to the Royal Canadian Navy, were returned to England and a considerable number of special service men were retired. Officers who were surplus to requirements were also retired. Officers on retirement were granted one month's pay for each completed year of service. Special service ratings were granted the gratuity which they would have received had they completed their engagement and continuous service men were granted one month's pay for each completed year of service under their current engagement.

The Royal Naval College of Canada was also closed down and the personnel discharged as the complement of officers was sufficient to meet the requirements of the service for some years. The officers and men who remained in the service were reallocated to the Royal Canadian Naval Ships and Establishments. They have shown enthusiasm during the past year and have carried out their duties in a highly efficient and satisfactory manner.

ROYAL CANADIAN NAVAL RESERVE

The Royal Canadian Naval Reserve will consist of 500 officers and men who will be drawn from among those following a seafaring life. The training and regulations governing this force are following closely the lines found by many years of experience to be suitable to the corresponding auxiliary force of the Royal Navy, viz., the Royal Naval Reserve. Officers and men in order to be eligible for entry must,—

(*a*) Be British subjects domiciled in Canada.
(*b*) Be of good character.
(*c*) Be medically fit.
(*d*) Not belong to any other of H.M. Forces.
(*e*) Be willing to serve for five consecutive years.
(*f*) Be willing to serve where required.
(*g*) Be employed in a seafaring capacity.
(*h*) Be above 18 and under 35 years of age

They will be required to perform fourteen days' training yearly in a Naval Ship or establishment. They will be paid a yearly retainer fee so long as they fulfil the conditions laid down by the Regulations. The amounts of retainer fees payable will be as follows:—

Officers—approximate	$ 100.00
Chief Petty Officers and Petty Officers	80.00
Leading rates	64.00
Other rates	48.00

Recruiting for this Force was not undertaken during the past fiscal year but it is hoped that the Force will be fully organized during the summer of 1923.

ROYAL CANADIAN NAVAL VOLUNTEER RESERVE

The Royal Canadian Naval Volunteer Reserve consists of 1,000 officers and men recruited from among Canadian citizens who do not follow the sea as a profession. Company Headquarters have been established at—

Halifax,	Ottawa,	Edmonton,
Charlottetown,	Toronto,	Regina,
St. John, N.B.,	Hamilton,	Saskatoon,
Quebec,	Winnipeg,	Vancouver,
Montreal,	Calgary,	Victoria.

In organizing this Force it has been essential to have each province represented according to its population and the facilities for training available. On the other hand it has been necessary to keep the total Force within the limits approved. Company Headquarters were accordingly formed in the large centres only of each province. The department found that companies could easily have been formed in many other localities throughout Canada but has considered it advisable to limit company formation to the cities originally chosen. No difficulty has been experienced in obtaining recruits and it is expected that the companies will be formed early in the summer of 1923 and training at the Naval Bases will be carried out for all companies.

The following are briefly the qualifications necessary for entry in the R.C.N.V.R.:—

(*a*) Must be British subjects.
(*b*) Must not belong to any other of H.M. Forces.
(*c*) Must be willing to serve where required.
(*d*) Must sign engagement for three years.
(*e*) Must take the Oath of Allegiance.
(*f*) Must be medically fit.
(*g*) Must be above 18 and under 32 years of age (except officers, chief petty officers and petty officers, who may be entered between the ages of 18 and 40).

Drill.—Officers and men of the R.C.N.V.R. will be required to perform at least thirty (30) drills a year at Company Headquarters to qualify as efficient, which is essential in order to be allowed to remain in the Force. These drills will consist of instructions on the following subjects: Gunnery, Torpedo, Seamanship, Discipline, other general Naval subjects. The drills will last from one to two hours. Men attending Company Headquarters' drills will receive a small sum to defray out of pocket expenses.

Petty Officer Instructors, R.C.N.V.R., have been appointed for each Company Headquarters to instruct recruits in Naval subjects. These Petty Officer Instructors were chosen from a large number of applicants and each one has served in the Navy as Petty Officer or Chief Petty Officer of V.G. character and superior ability. The Petty Officer Instructors are full time employees and will be enabled to devote all their time to the training of recruits, preparation of records, care of Company Headquarters' records, etc. In order to ensure that they would be posted in the subjects which they are required to teach Petty Officer Instructors were sent to the Naval Bases at Halifax or Esquimalt for one month's Refresher Course, where it was ascertained that they were competent to take up their duties, and where they were given a general review of the subjects in which they are to give instruction.

In addition to Company Headquarters' Drills R.C.N.V.R. recruits will be required each year to train for a period of two weeks at the Naval Bases at Halifax or Esquimalt. The necessary equipment for their training at Naval Bases has been installed and each Company formed will be given every opportunity to train and qualify as a highly efficient Reserve unit.

6. CIVILIAN EMPLOYEES OF THE NAVAL SERVICE

Concurrent with the reorganization of the Naval personnel the civilian staffs of the Department, both at Ottawa and at H.M.C. Dockyards, Halifax and Esquimalt, were reorganized. The civil naval employees at Headquarters under the Director of the Naval Service who are permanent civil servants have been reduced to eighteen (18).

The Naval Purchasing, Naval Accounts and Naval Record systems have been amalgamated with similar services of the Militia and Air Board in the formation of the Department of National Defence. These services are functioning in a satisfactory manner.

All temporary employees of the Naval Service have been discharged and the work is being performed with a minimum number of civilian employees.

GENERAL

The Royal Canadian Navy and the services connected therewith are now well advanced under the new conditions arising from the amalgamation of the Naval Department with the Militia and Air Board, under the Department of

National Defence. Officers and men of the Royal Canadian Navy, as well as civilian employees, have rendered very satisfactory service, and have assisted in the organization of the Naval Service along lines which are economical, and which at the same time admit of ready expansion should an emergency arise.

7. NAVAL STORES

On the amalgamation of the Naval, Militia and Air Services under the Department of National Defence, the organization of the Naval Stores Branch has been changed to the extent that the work and personnel of the former Purchasing and Contracts Division are now under the Contracts Branch and the work and personnel of the Stationery and Printing Division under the Printing and Stationery Branch of the department.

The true functions of the branch remain intact, which for organization purposes are divided into two main divisions, viz., the Naval and Victualling Stores Division, comprising the Supply Depots at the Dockyards, and the Naval Armament Supply Division, likewise comprising the Naval Armament Supply Depots.

NAVAL AND VICTUALLING STORES DIVISION

The functions of this division are (*a*) the determination of the class, kind and quality of stores for use in the service, involving the preparation of specifications and the selection of sealed patterns; (*b*) the determination in all cases of the quantities of the various kinds of stores to be supplied; (*c*) the maintenance of adequate stocks and reserves at the Supply Depots to meet all requirements; (*d*) the determination of authorized allowances of each specific store for the various ships and establishments from time to time, and the revision thereof as necessary; (*e*) the transportation of stores between Dockyards and to various points as required by inland establishments and to meet the exigencies of the service; (*f*) the custody, care and safekeeping of all naval and victualling stores from the time of receipt until finally disposed of by sale, destruction, etc.; (*g*) the regulation of the receipt, issue, storage, return and accounting for these stores until finally disposed of; (*h*) the victualling of all Naval personnel; (*i*) the determination of financial requirements for stores and allowances in lieu of stores under the parliamentary estimates, as well as maintaining a close check throughout the year on actual liabilities incurred against the Stores appropriation; (*j*) the determination of allowances to be granted in lieu of stores and for storekeeping duties, etc.; (*k*) the determination of surplus quantities of stores from time to time as these occur through changes in policy, etc.; and (*l*) in general, the preparation of instructions and regulations in regard to all stores matters, including those pertaining to the use of stores, such as the Uniform and Clothing Regulations.

The supply work of the branch is organized primarily for the supply and equipment of men-of-war and of auxiliary services with every possible expedition and to render the maximum assistance possible for their efficient maintenance. Though now on a peace time basis, the organization is necessarily such that under any emergency all existing facilities are capable of expansion and development at a moment's notice to provide for whatever requirements may arise. At the present time, the necessary trained personnel and storing facilities available at the dockyards are adequate to satisfy present requirements and at the same time constitute a nucleus for an emergency.

During the year supplies of stores were arranged for vessels of the Canadian Naval Service. The greatest possible economy was exercised in this by the transfer of stores between dockyards, and by shipment to other points as necessary. Service has also been rendered at Halifax to sixty-five and at Esquimalt

to forty-four ships and establishments, including small craft, and vessels and services not under the control of the department, including the Imperial Service. Supply Depots are maintained at both Halifax and Esquimalt Dockyards. These are in charge of experienced store officers who supervise the work and who are responsible to the Director of Naval Stores for the performance of the duties allotted to them. It is their duty to be prepared at all times to provide and issue supplies of whatever nature required to all ships and establishments under the jurisdiction of the department and to such others as may be approved by Headquarters; to make a strict and careful accounting of all such issues; and to see that all supplies purchased are in accordance with specifications and in other respects suitable for the service. The variety of stores handled is necessarily very wide and includes staple provisions; uniforms and clothing of all kinds, and clothing materials; lumber of all kinds; metal of all kinds and in every state of manufacture; hardware and tools; textiles and cordage; packings and rubber goods; paints, oils, glass, leather goods, brushes, furniture and furnishings, tackle, navigating instruments, charts and other miscellaneous supplies of every nature; electrical stores of a very wide range; and coal and oil fuel. In the inspection and selection of this wide range of stores expert knowledge and wide experience are essential. For ships of war particularly, excellence of quality and reliability are of most vital importance. To this end standardization of supplies and a rigid system of inspection constitute two important factors of the supplies organization.

The nature of the service demands that substantial reserves be maintained at each naval base and kept readily available at all times. In time of peace, ships' requirements can be forecasted very accurately, their allowances being carefully regulated. Ordinarily, and within reasonable limits, these reserves are based upon six months' requirements for all purposes. Owing to the large reserves which were available at the end of the war, increases have only been made in the case of those items since depleted. On the other hand, steps to dispose of surplus quantities have been continued. At the close of the fiscal year 1922-23, the reserve at Halifax totalled in value $1,705,356.33, and at Esquimalt $704,501.72. In addition to the stores actually carried at the supply bases, contracts are maintained on both coasts for supplies of fresh provisions, coal, ice, etc., for the convenience of ships operating in adjacent waters. These are made applicable to, and are taken advantage of, by ships of the Imperial Service.

The volume of business transacted in 1922-23 at both dockyards is reflected in the following brief statistics:—

		Number transactions involved
HALIFAX DOCKYARD—		
Value of stores received	$ 68,890.18	977
Value of stores returned	381,700.46	3,240
Value of stores issued	334,317.01	6,156
ESQUIMALT DOCKYARD—		
Value of stores received	46,266.26	783
Value of stores returned	13,481.86	988
Value of stores issued	100,497.15	3,283

During the year the total value of naval and victualling stores purchased for delivery to the dockyards and to services direct amounted to $369,535.96.

The overhead costs at the Dockyards in connection with the supply of stores to all ships and establishments for the year under review were 16·45 per cent at Halifax, and 20·7 per cent at Esquimalt. These percentages embrace all costs of whatever nature incidental to the maintenance and operation of the supply bases. Though the percentages have increased in the past year, an appreciable saving in the actual costs has been affected. The increase in the percentage is due to the falling off in the value of issues, particularly at Esquimalt, during the period of transition prior to the inauguration of the present naval policy.

The audit of all stores accounts had been continued with satisfactory results. Not only the Dockyards but the ships and establishments connected with the department keep store accounts in which receipts and expenditures are fully recorded. It is one of the functions of the branch to control the consumption of all stores so long as their serviceability continues. Each officer responsible for the custody and expenditure of stores of whatever nature makes a full accounting for them and reports direct to Naval Headquarters, where the audit is carried out. In the case of the store accounts of the Dockyards, the system of concurrent audit at Headquarters has been continued with great success and serves not only as an audit but also affords Naval Headquarters information on stores matters at all times as an integral part of the system of stores control.

The system of binenial stocktaking whereby the stocks at both Dockyards are completely reviewed in the course of two years has been continued and good progress made. The results of the stocktaking made are on the whole very gratifying and testify to the efficient manner in which the staffs concerned have performed their duties.

The system of general messing whereby the complements of vessels of the naval and auxiliary services are victualled by the department direct has been continued with very satisfactory results. This system was established in vessels of the Royal Canadian Navy in 1910, where it has always proven satisfactory. The essential features of the general messing system are direct control of the stewards, the supply of stores purchased by contract, and a particular naval headquarters audit. The system has effected a considerable saving in the cost of victualling ships of the department. During the past year the average cost of victualling was 53 cents per man per diem.

Efforts to effect sale of the remaining vessels in the possession of the department, as well as of Admiralty vessels, were continued during the year. As a result the department succeeded in disposing of the *Petrel*, *Hochelaga*, and *Drifter No. 23*. The interests of the Crown have been vigilantly guarded in connection with vessels sold under mortgage. The sale of surplus stores has also been continued. The sum realized by the disposal of excess stocks amounted to $148,469.35.

NAVAL ARMAMENT SUPPLY DIVISION

The work of the Naval Armament Supply Division has not been materially affected by the amalgamation of the various services under the Department of National Defence.

The functions of this division are, in general terms, the supervision and control of all matters pertaining to the provision, receipt. issue, care and maintenance, repair, testing, examination, accounting and audit of all Naval Armament stores, comprising ordnance, ordnance stores, ammunition, torpedoes, torpedo stores, paravanes and depth charges in connection with the Canadian Naval Services and the Imperial Service at both Halifax and Esquimalt. The nature of these functions may be illustrated by the following particular work performed: (*a*) determination of the specific class of guns, spare parts and ammunition for the particular vessel concerned; (*b*) determination of the quantities to be supplied and adequate reserves for replacements; (*c*) the immediate withdrawal of ammunition from ships and stocks due to obsolescence, deterioration, age and failures to pass the prescribed tests on examinations; (*d*) the transportation of ordnance and ammunition between depots and to inland establishments in order to ensure an adequate supply to ships at various points; (*e*) the careful recording of magazine temperatures in order to maintain a temperature as near 70° F. as possible at all times, as changes of temperature very materially affect the ballistics of cordite; (*f*) the constant inspection, examination and heat testing of cordite, to ensure its stability (*g*) the immediate destruction or disposal of all explosives so ordered; (*h*) the examination

and preservation of all guns, gun mountings, torpedoes and paravanes in reserve the fitting of all component and spare parts to ensure their accurate fitting and functioning; (*i*) the carrying out of air vessel tests of torpedoes, in store, and on board ships, their parting and cleaning, testing of gyroscopes and general overhaul; (*j*) the periodical stripping of paravanes, the removal of the mercury, replacing of rubber washers and reassembling and testing; (*k*) determination of financial requirements for Naval Armament stores under the parliamentary estimates as well as maintaining a close check through the year against the appropriation; (*l*) the supply of instructional appliances for the R.C.N.V.R. Company Headquarters; (*m*) the regulation of the care, maintenance and custody of Naval Armament stores for the various establishments, and (*n*) carrying out of a continuous stocktaking of Naval Armament stores for both Imperial and Canadian stocks.

The Naval Armament Supply Depots maintained at Halifax and Esquimalt comprise storehouses, where the necessary facilities for the care, issue and receipt of guns, gun mountings ad torpedoes are available, magazines for the proper stowage, care and maintenance of the respective classes of explosives, and workshops for carrying out the necessary repairs and alterations to ordnance and ordnance stores authorized by the list of changes in war material.

The Magazines at Halifax are situated at Fort Clarence and Georges Island. These places were originally used as gun batteries, are very old, and although they do not wholly meet modern requirements, they have been made efficient and safe. To this end new and powerful electrically driven pumps and a system of fire alarms have been installed, in order to provide adequate fire protection. These pumps can be operated to throw a stream of water at 120 pounds pressure in less than three minutes and a test recently carried out proved their efficiency. The fire alarms consist of 12-inch gongs worked by a powerful spring which functions by the simple process of breaking a small glass.

At Esquimalt the magazines are situated at Cole Island and although very old, are still serviceable. They have been lately improved by having cement floors laid in order to avoid the accumulation of any inflamable dust. There are fire hydrants connected to the mainland water supply, with all necessary appliances installed on the island.

During the past year the guns, gun mountings, fire control instruments, searchlights, etc., have been removed from H.M.C.S. *Aurora* and distributed between the newly organized R.C.N. Barracks at Halifax and Esquimalt to be used for training purposes. These guns and appliances have been augmented by the purchase from the Admiralty of additional modern guns, rangefinders, fire control instruments and instructional gear, which have likewise been divided between the training centres.

The stocks of Naval Armament stores at both Halifax and Esquimalt have been depleted of all obsolete and unserviceable stores and where necessary replaced by modern equipment. The following statement of values of stores shown as Canadian, include all stores returned from H.M.C.S. *Aurora* on paying off, which were a free gift from the Imperial Government together with the reserves also presented with the squadron:—

VALUE OF STORES ON MARCH 31, 1923

At Halifax—Canadian stock	$	797,791.24
Imperial stock		626,296.61
Total	$	1,424,087.85
At Esquimalt—Canadian stock	$	68,167.00
Imperial stock		119,491.25
Total	$	187,658.25

The following represents the value of the receipts and issues made during the year; the inflated receipts being due to the return of all stores from H.M.C.S. *Aurora* on paying off:—

Receipts—At Halifax	$	321,644.17
At Esquimalt		3,857.27
Issues—At Halifax		12,079.73
At Esquimalt		2,566.00

The total value of Naval Armament stores purchased during the year amounted to $110,924.75.

Stores to the value of $40,482 have been issued to the militia services, free of charge.

The Naval Armament store accounts of the depots, as well as of ships and establishments, have been kept and rendered in a satisfactory manner.

8. GENERAL

I have to express my appreciation for the competent manner in which officers and men of the Royal Canadian Navy, and civilian employees of the Naval Service have performed their duties during the past year.

I am, Sir,

Your obedient servant,

WALTER HOSE, Captain, R.C.N.,

Director of the Naval Service.

OTTAWA, July 15, 1923.

The Deputy Minister,
Department of National Defence,
Ottawa, Ont.

SIR,—I have the honour to submit the financial statement of the Department of National Defence (Naval Service) for the fiscal year ended March 31, 1923.

The following financial statements show the expenditure under the various appropriations amounting to $2,333,706.40, and a revenue of $86,033.46, also refunds on account of demobilization previous years, $248,853.81, received by the Department of the Naval Service during the fiscal year ended March 31, 1923.

The following appropriations voted to the Naval Service, but transferred to the Department of Marine and Fisheries on July 1, 1922, are excluded from this statement,—

Fisheries Protection Service.
Hydrographic Surveys.
Radiotelegraph Service.
Tidal Service.
Patrol of the Northern Waters of Canada.

STATEMENT OF EXPENDITURE UNDER THE NAVAL APPROPRIATION FOR THE FISCAL YEAR ENDED MARCH 31, 1923

Ship or Establishment	Pay and Allowances	Stores and Allowances	Medical Services	*a* Martial Law *b* Training, Recruiting Cadets	Repairs and Maintenance	Works, Lands, Buildings	Miscellaneous Effective Services	Non-effective Pay	Advances, Suspense Account, etc.	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
H.M.C.S. *Aurora*	107,155 97	37,891 23	4,342 79	*a* 14 40	1,915 27		29,268 65	22,865 28		213,952 65
" " Fuel		10,499 06								
" *Patriot*	76,238 71	32,575 56	2,218 83	*a* 32 64	19,335 04		2,172 35	5,900 48		180,904 21
" " Fuel		42,430 58								
" *Patrician*	65,082 86	37,323 23	1,825 21		23,804 98		4,746 36	5,274 05		203,693 17
" " Fuel		65,636 48								
Royal Naval College	33,981 18	11,938 38	670 46	*b* 50 00	386 39		15,430 11	14,863 05		77,319 57
Submarines *Ch. 14* and *Ch. 15*	19,241 49	4,469 53	334 00	*a* 6 07	563 53		1,270 41	2,932 05		28,817 08
				a 47 20						
Youths' Training Estab	19,437 08	8,104 18	943 89	*b* 240 00	1,708 04		3,581 58	807 04		34,869 01
Headquarters	39,829 96	2,028 82	71 50				11,645 62	7,508 31		61,084 21
Canadian Officers Overseas	64,664 60	722 96	63 35				12,963 19			78,414 10
				a 35 97						
Barracks—Halifax	129,671 21	59,613 46	1,644 16	*b* 501 86	16,616 27	2,000 00	8,584 89	26,553 18		245,221 00
Esquimalt	45,077 60	23,970 76	690 85	*b* 235 93	42,220 53	1,000 00	14,705 79	399 55		128,300 11
R.C.N.V. Reserve	153 25	2 10					208 87			364 22
Minesweeper *Festubert*		1,094 16			4,177 37					5,271 53
" *Ypres*		1,098 71			4,641 86					5,740 57
" *Armentieres*	10 40				2,425 14		6 50			2,442 04
" *Thiepval*		(Credit 2,559 73)			20 52					(Credit 2,539 21)
General Account		7,225 55					2,487 47			9,713 02
Government Department Transfers									1,541 85	1,541 85
Halifax—										
Dockyard							796 88			796 88
Stores		(Credit 100,696 31)								(Credit 100,696 31)
Supply Base—										
Dr. operating expenses	382 46	48,535 24			12,852 47		6,294 99			68,065 16
Cr. percentages		(Credit 10,302 62)								(Credit 10,302 62)
Repair Base—										
Dr. operating expenses	509 94				32,210 23		6,055 85			38,776 62
Cr. percentages					(Credit 16,557 33)					(Credit 16,557 33)
Fleet General	382 45				11,186 47		4,024 32			15,593 24
Armament and Torpedo Dep.	515 32	344,215 23			26,364 51		190 06			371,885 12
Vessels in Reserve	4,116 12	893 76			2,693 29		1,411 28			9,114 45
Hospital and Cemetery					1,493 89		20 50			1,516 39

Esquimalt—										
Dockyard	1,685 10	22,326 47			11,869 45		6,587 69			41,868 71
Stores		(Credit 21,078 67)								(Credit 21,078 67)
Percentages, Cr.		(Credit 7,314 09)			(Credit 1,426 98)					(Credit 8,741 07)
Armament and Torpedo Dep.	438 60	16,406 49			2,250 84		118 90			19,224 83
Vessels in Reserve	437 42				4,450 44		4 54			4,892 40
Hospital and Cemetery					971 52					971 52
Port Defences		11 68			458 73		8,733 51			9,203 92
Allotments	24,481 45									24,481 45
Sundries									8,499 17	8,499 17
Less—For stores returned on paying off or closing—		(Credits								(Credits
H.M.C.S. *Aurora*		272,466 46								272,466 46
Submarines *Ch.* 14 and *Ch. 15*		44,961 24								44,961 24
Youths' Training Estab.		20,137 73								20,137 73
R. C. N. College		15,530 20)								15,530 20)
	633,493 17	283,966 57	12,805 06	*a* 136 28 *b* 1,026 89	206,045 07	3,000 00	141,310 31	87,102 99	10,041 02	1,378,927 36

Total revenue of the Department of the Naval Service for the fiscal year ended March 31, 1923		$ 86,033.46
Demobilization refunds previous years		248,853.81
		$ 334,887.27
Net expenditure for the year on departmental appropriations		$ 2,333,706.40
Value of work done and materials supplied for account of other Canadian Government departments, British Admiralty and others		814,609.65
Gross disbursements for the year		$ 3,148,316.05
Net expenditure for three months on the following appropriations transferred to the Department of Marine and Fisheries on July 1, 1922—		
Fisheries Protection Service	$54,778.26	
Hydrographic Surveys	91,516.59	
Radiotelegraph Service	86,155.24	
Tidal Service	13,730.27	
Patrol of the Northern Waters of Canada	1,570.23	
		$247,750.59

STATEMENT OF APPROPRIATION ACCOUNTS FOR THE FISCAL YEAR 1922-1923

Service	Appropriation	Expenditure	Balance Unexpended
	$ cts.	$ cts.	$ cts.
Naval service	1,500,000 00	1,378,927 36	121,072 64
Customs dues	500 00	23 40	476 60
Pay of temporary officers and clerks	20,000 00	11,941 59	8,058 41
Adjustment of war claims	956,800 00	764,793.80	192,006.20
	2,477,300 00	2,155,686 15	321,613 85
Civil government salaries	$215,220 00		
Less—Proportion of salaries of Civil Servants transferred to the Marine Department on July 1, 1922	78,621 30		
	136,598 70	128,127 69	8,471 01
Civil government contingencies	$ 40,000 00		
Less—Proportion of amount pertaining to services transferred to the Marine Department on July 1, 1922	18,080 90		
	21,919 10	18,776 72	3,142 38

RECAPITULATION

Naval Service	2,477,300 00	2,155,686 15	321,613 85
Civil government salaries	136,598 70	128,127 69	8,471 01
Civil Government contingencies	21,919 10	18,776 72	3,142 38
	2,635,817 80	2,302,590 56	333,227 24

Imperial Government (Special Account)—		
Disbursements	$466,705 08	
Carried from 1921-22	95,988 79	
	$562,693 87	
Less—Reimbursements	524,725 82	
Transferred to 1922-23	37,965 05	
	$562,693 87	
Provisional Bonus Allowance		$ 30,515 84
Retirement Act, 1920—Superannuation No. 4		600 00
		$ 2,333,706 40

STATEMENT OF REVENUE FOR FISCAL YEAR ENDED MARCH 31, 1923

Casual revenue	$	81,741 19
Miscellaneous revenue		3,962 00
Premium, discount and exchange		330 27
	$	86,033 46
Demobilization, previous years		248,853 81
	$	334,887 27

SUSPENSE ACCOUNTS

SHOWING VALUE OF WORK DONE AND MATERIAL SUPPLIED FOR ACCOUNT OF OTHER CANADIAN GOVERNMENT DEPARTMENTS, BRITISH ADMIRALTY, AND OTHERS

—	Dr.	Cr.	Balance	
			Transferred to 1923-24	Not Transferred
	$ cts.	$ cts.	$ cts.	$ cts.
British Admiralty	554,857 43	520,717 68	32,091 25	2,048 50
British Ministry of Shipping	20,640 21	14,763 41	5,876 80	
Department of Marine and Fisheries	52,163 61	45,080 93	7,082 68	
Department of Militia and Defence	12,532 93	12,212 32	320 61	
Department of the Interior	7,113 16	7,085 12	28 04	
Department of Health	4,485 91	2,516 95	1,968 96	
Department of Customs	3,785 89	3,768 13	.....	17 76
Department of Public Works	795 10	791 80	3 30	
Department of Soldiers' Civil Re-establishment	945 00	.....	945 00	
Royal Canadian Mounted Police	972 77	945 48	27 29	
Air Board	498 45	438 27	60 18	
Canadian Government Merchant Marine	2,141 39	1,380 03	761 36	
			Credit	
Miscellaneous	153,677 80	157,687 33	10,186 26	6,176 73
	814,609 65	767,387 45	38,979 21	8,242 99

L. J. BEAUSOLEIL,
Chief Accountant.

REPORT OF THE WORK

OF THE

DEPARTMENT OF

SOLDIERS' CIVIL RE-ESTABLISHMENT

CANADA

FOR THE YEAR ENDING DECEMBER 31, 1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1924

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY,—

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of Soldiers' Civil Re-establishment for the calendar year ended December 31, 1923.

I have the honour to be

Your Excellency's most obedient servant,

HENRI S. BELAND,
Minister of Soldiers' Civil Re-establishment.

February 1, 1924.

THE DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT

Head Office.. .. ..Daly Building, Ottawa.

MINISTER—The Honourable Henri S. Beland, M.D.

DEPUTY MINISTER—N. F. Parkinson.

ASSISTANT DEPUTY MINISTER AND SECRETARY—E. H. Scammell, F.C.I.S.

DIRECTOR OF ADMINISTRATION—E. Flexman, D.S.O.

DIRECTOR OF MEDICAL SERVICES—W. C. Arnold, M.D.

DIRECTOR OF DENTAL SERVICES—R. B. O'Sullivan, D.D.S., O.B.E.

SUPERVISOR OF EXPENDITURES—J. F. Waddington.

OVERSEAS REPRESENTATIVE—C. G. Arthur, D.S.O.

District Offices—

"A" Unit, Province of Quebec—
Head Office, Ames-Holden Building, Montreal, P.Q.
Branch Office, Merger Building, Quebec, P.Q. (Medical Clinic only).

"B" Unit, Nova Scotia, New Brunswick, and Prince Edward Island—
Head Office, Camp Hill Hospital, Halifax, N.S.
Branch Office, 74 Union Street, St. John, N.B.

"C" Unit, Eastern Ontario—
Head Office, Plaza Building, Ottawa, Ont.
Branch Office, Grant House, Sydenham Hospital, Kingston, Ont.

"D" and "F" Units, Central and Western Ontario—
Head Office, Christie Street Hospital, Toronto, Ont.
Branch Office, Sanford Building, 43 Catharine Street South, Hamilton, Ont.
Branch Office, Brener Building, 184 Horton Street, London, Ont.

"G" Unit, Manitoba—
Head Office, Notre-Dame Investment Building, Winnipeg, Man.
Branch Office, Customs Excise Warehouse, Port Arthur, Ont.

"H" Unit, Saskatchewan—
Head Office, Veteran Block, Regina, Sask.
Branch Office, Canada Building, Saskatoon, Sask.

"I" Unit, Alberta—
Head Office, 523 Eighth Avenue West, Calgary, Alta.
Branch Office, McLeod Block, Edmonton, Alta.

"J" Unit, British Columbia—
Head Office, Duncan Building, Vancouver, B.C.
Branch Office, Post Office Building, Victoria, B.C.

Overseas Office—103 Oxford Street, London, W., England.

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II. Order in Council P.C. 1808, dated the 12th September, 1923. Authority under which the Department may give treatment to Fenian Raid or Northwest Rebellion pensioners and may issue allowances in connection therewith .. 79

INTRODUCTORY LETTER

TO REPORT OF THE

DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT

The Honourable H. S. BELAND, M.D., M.P.,
Minister of Soldiers' Civil Re-establishment,
Ottawa, Ontario.

SIR,—I have the honour to submit a report of the work of the Department of Soldiers' Civil Re-establishment for the calendar year 1923, for presentation to Parliament in accordance with the requirements of chapter 42 of the Statutes of Canada, 1918.

2. The report sets forth in concise form the general activities of the department during the year. The report of the Treatment Branch, in addition to general statistics, deals with the tuberculosis and neuropsychiatric sections, at the head of each of which there is a specialist who is under the direction of the Director of Medical Services. It will be seen from the report of the Administration Branch that there has been a considerable reduction in the cost of operation and in the personnel employed. The figures setting forth the expenditure of the department are detailed in the report of the Accounts Branch and are so arranged as to exhibit clearly the financial aspect of the work.

3. During the year under review, the Royal Commission on Pensions and Re-establishment, appointed in pursuance of a recommendation passed by Parliament towards the close of the 1922 session, travelled from coast to coast and received recommendations from committees of ex-service men which were presented with a view to a clear understanding of the problem of re-establishment and the enactment of such statutory and other amendments as might be deemed necessary. The department and the Board of Pension Commissioners placed all their facilities at the disposal of the commission and the hearings were attended by the assistant deputy minister of the department and the secretary of the Board of Pension Commissioners with a view to assisting the commission in its inquiry.

4. An interim report was presented by the commission shortly before the conclusion of the last parliamentary session and upon this interim report were based certain amendments to the Pension Act, the Returned Soldiers' Insurance Act, and the Department of Soldiers' Civil Re-establishment Act. The amendments to the Pension Act do not call for review in this report except to note that provision was made for the establishment of a Federal Appeal Board for the purpose of hearing appeals against decisions of the Board of Pension Commissioners, where pension has been refused on the ground that disabilities from which former members of the forces may be suffering are not attributable to service. The principal amendment to the Department of Soldiers' Civil Re-establishment Act enacted that, subject to the approval of the Governor in Council, the minister might make such regulations from time to time as he might deem necessary and advisable,—

> "To provide for appeals from decisions as to the right of ex-members of the forces to treatment with pay and allowances, and to designate for that purpose such review tribunals as are constituted under 'The Pension Act' and the Federal Appeal Board provided for by that Act, and

to vest in such tribunals all powers which may be deemed necessary or expedient for the effectual hearing and disposal of such appeals, and to prescribe or adapt procedure therefor."

5. Pursuant to this authority, arrangements were made with the Federal Appeal Board to hear appeals of those former members of the forces who had been refused treatment with pay and allowances by the department.

6. A further amendment to the Act, which was immediately made effective, empowered the minister to appoint in each unit or district of the department, an ex-member of the forces to be known as the Official Soldiers' Adviser, whose duties would be "generally to advise and assist ex-members of the forces in matters pertaining to re-establishment, treatment and pension, and to perform such other duties as may be prescribed by the minister."

7. The legislation regarding the Returned Soldiers' Insurance Act did not amend the Act itself but dealt with certain regulations which had been passed under its provisions. It affected a very limited number of cases.

8. During the year, a conference was held between head office officials of the department and representatives of the Canadian Red Cross Society with a view to the extension of the work being carried on by the department and the society under the sheltered workshop scheme. The interest shown by various branches of the Red Cross Society has been increasingly evident and there has been a marked reduction in the loss sustained in the operation of the workshops.

9. Agreements have been entered into with a majority of the provinces under which the greater facilities of the Employment Service of Canada will be available for assisting handicapped men to find employment. The arrangement provides for the additional cost incident to this service being paid by the department.

10. Certain amendments to departmental regulations regarding eligibility for treatment in cases where diagnosis is uncertain or where there is a lack of evidence proving continuity of disability were effected by Order in Council P.C. 1127, dated the 26th June, 1923. These amendments are incorporated in appendix I of this report.

11. Under P.C. 1808, dated the 12th September, 1923, authority was granted to the department to provide medical treatment and to grant payment of allowances to Fenian Raid and Northwest Rebellion pensioners when undergoing treatment.

12. As the number of hospitals now being operated has been materially reduced, the duties of the Soldiers' Comforts Branch were amalgamated with the general administrative work of the department as from the 30th June, 1923. I desire to express the appreciation of the officers of the department of the work carried on by Mrs. Arthur Van Koughnet, who established the Soldiers' Comforts Branch, and was its honorary superintendent from the time of its inception to its close.

13. Both the admissions to hospital and the clinical treatments have shown a decrease during 1923. The former were 8,516 as against 10,015 for 1922, and the latter, 167,291 as against 216,991 for 1922. There were 39,110 pension examinations during 1923.

14. There has been a further reduction in the number of the staff. The figure at the 31st December, 1923, was 3,094, as against 3,823 one year previously. The department continues to employ a large proportion of ex-service men, the percentage of the male staff being 93. The balance of 7 per cent consists largely of boys who were under military age during the war.

15. The decrease in staff indicated in the preceding paragraph has partly been made possible by further departmental reorganization involving additional reduction in the number of branches and divisions. A very careful check is kept on all expenditures and it is felt that the results shown will be gratifying to the Government. In 1920 the administrative cost of operation was 8·85 per cent of the total expenditure, while for 1923 it was 5 per cent.

16. The sections of the report dealing with the activities of the separate branches have been prepared as follows:—

Treatment Branch—W. C. Arnold, M.D., Director of Medical Services.

Dental Services—R. B. O'Sullivan, B.A., D.D.S., O.B.E., Director of Dental Services.

Administration Branch—E. Flexman, D.S.O., Director of Administration.

Accounts and Audit Branch—J. F. Waddington, Supervisor of Expenditures.

I have the honour to be, sir,

Your obedient servant,

N. F. PARKINSON,
Deputy Minister.

OTTAWA, January 31, 1924.

REPORT OF TREATMENT BRANCH, MEDICAL DIVISION FOR THE YEAR 1923

During the year 1923 there have been no changes in the general plan of administration of the medical services of the department. It has been found possible, however, due to decrease in the number of patients requiring treatment, and by consolidation of services, to close the following institutions:—

Sydenham Hospital, Kingston, Ont.
Brant Hospital, Burlington, Ont.
Euclid Hall Hospital, Toronto, Ont.
Jordan Memorial Sanatorium, River Glade, N.B.
Ste. Agathe Sanatorium, Ste. Agathe des Monts, P.Q.

The department continues to operate ten hospitals, having a total bed capacity of 2,794.

On December 31, 1923, there were on the strength of the department, 3,744 treatment cases, distributed as follows: in Canada, 3,398; in Great Britain, 116; in the United States, 230. Of the 3,398 cases in Canada, 3,298 were in institutions. The number of out-patients totally incapacitated was 100. These patients were classified as follows:

	Canada	Great Britain	U.S.A.	Total
General (medical and surgical).....	1,626	64	100	1,79
Tuberculous (sanatorium cases).....	834	26	98	95
Mental.....	938	26	32	99

It is pointed out that the figures showing the number of clinical treatments of ex-members of the forces outside hospitals, and of pension re-examinations conducted during the year, prove that the number of patients in hospital is but a partial indication of the work performed by the medical staff.

The following figures give the approximate number of admissions to hospital by the Military Hospitals Commission and the department to December 31, 1923:

July 1, 1915, to December 31, 1916—by Military Hospitals Commission, approximately.....	22,742
January 1, 1917 to March 31, 1918.....	28,258
April 1, 1918, to December 31, 1919—by Department of Soldiers' Civil Re-Establishment.....	36,625
January 1, 1920, to December 31, 1920.....	23,591
January 1, 1921, to December 31, 1921.....	13,890
January 1, 1922, to December 31, 1922.....	10,015
January 1, 1923, to December 31, 1923.....	8,516
Total.....	143,637

Clinical Treatments

May 1, 1919, to December 31, 1919—by Department S.C.R.....	126,057
January 1, 1920, to December 31, 1920.....	447,142
January 1, 1921, to December 31, 1921.....	300,895
January 1, 1922, to December 31, 1922.....	216,991
January 1, 1923, to December 31, 1923.....	167,291
	1,258,376

The number of pension medical examinations carried out in Canada during the year was 39,110.

INSTITUTIONS OPERATED BY THE DEPARTMENT

GENERAL TREATMENT HOSPITALS

Unit	Name	Place	Total number of Patient Beds
A	Ste. Anne's Hospital (General Service)	Ste. Anne de Bellevue, Que	225
B	Camp Hill Hospital	Jubilee Road, Halifax, N.S	200
	Lancaster Hospital	St. John, N.B	100
D	Christie St., Hospital	Toronto, Ont	545
G	Deer Lodge Convalescent Hospital	Winnipeg, Man	64
I	Colonel Belcher Hospital	Calgary, Alta	128
J	Shaughnessy Hospital	Vancouver, B.C	304

T. B. SANATORIA

C	Sir Oliver Mowat Memorial San	Kingston, Ont	147
I	Central Alberta Sanatorium	Robertson, Alta	181

NEUROPSYCHIATRIC HOSPITALS

A	St. Anne's Hospital (Neuropsychiatric Service)	St. Anne de Bellevue, Que	400
F	Westminster Hospital	London, Ont	500
		Total	2,794

INSTITUTIONS WHERE THE DEPARTMENT HAS ARRANGEMENTS FOR ACCOMMODATION

GENERAL TREATMENT HOSPITALS

Unit	Name	Place
A	Royal Victoria Hospital	Montreal, Que.
	Mount Royal Hospital	Montreal, Que.
	General Hospital	Montreal, Que.
	Jeffrey Hale Hospital	Quebec, Que.
C	General Hospital	Kingston, Ont.
	Hotel Dieu Hospital	Kingston, Ont.
	St. Luke's Hospital	Ottawa, Ont.
	County Carleton General Protestant Hospital	Ottawa, Ont.
D	St. Joseph's Hospital	Hamilton, Ont.
F	Hotel Dieu	Windsor, Ont.
	Victoria Hospital	London, Ont.
G	Port Arthur Hospital	Port Arthur, Ont.
	General Hospital	Winnipeg, Man.
	St. Boniface Hospital	St. Boniface, Man.
	General Hospital	Brandon, Man.
H	General Hospital	Regina, Sask.
	Grey Nun's Hospital	Regina, Sask.
	General Hospital	Moose Jaw, Sask.
	Providence Hospital	Moose Jaw, Sask.
	City Hospital	Saskatoon, Sask.
	St. Paul's Hospital	Saskatoon, Sask.
I	University Hospital	Edmonton, Alta.
	Banff Sanatorium	Banff, Alta.
J	General Hospital	Vancouver, B.C.
	Royal Inland Hospital	Kamloops, B.C.
	Kootenay Lake Hospital	Nelson, B.C.
	Colquitz Hospital	Colquitz, B.C.
	Jubilee Hospital	Victoria, B.C.
	St. Joseph's Hospital	Victoria, B.C.

T. B. SANATORIA

Unit	Name	Place
A	Ste. Agathe Sanatorium	Ste. Agathe des Monts, Que.
B	Jordan Memorial Sanatorium	River Glade, N.B.
	Nova Scotia Sanatorium	Kentville, N.S.
	St. John County Hospital	St. John, N.B.
D	Mountain Sanatorium	Hamilton, Ont.
	Calydor Sanatorium	Gravenhurst, Ont.
	Muskoka Cottage	Gravenhurst, Ont.
F	Freeport Sanatorium	Kitchener, Ont.
	Bryon Sanatorium	London, Ont.
G	King Edward Sanatorium	Winnipeg, Man.
	Manitoba Sanatorium	Ninette, Man.
H	Saskatchewan Sanatorium	Fort Qu'Appelle, Sask.
J	British Columbia Sanatorium	Tranquille, B.C.

MENTAL HOSPITALS

A	St. Michel de Beauport Hospital	Beauport, Que.
	St. Jean de Dieu Hospital	Longue Point, Montreal, Que.
B	Nova Scotia Hospital	Dartmouth, N.S.
	Falconwood Hospital	Charlottetown, P.E.I.
C	Ontario Hospital	Kingston, Ont.
	Ontario Hospital	Brockville, Ont.
D	Ontario Hospital	Mimico, Ont.
	Ontario Hospital	Toronto, Ont.
	Ontario Hospital	Whitby, Ont.
G	Winnipeg Psychopathic Hospital	Winnipeg. Man.
	Selkirk Hospital	Selkirk, Man.
H	Provincial Mental Hospital	Battleford, Sask.
	Provincial Mental Hospital	Weyburn, Sask.
I	Provincial Mental Hospital	Red Deer, Alta.
	Provincial Mental Hospital	Ponoka, Alta.
J	Provincial Mental Hospital	Essondale, B.C.
	Provincial Mental Hospital	New Westminster, B.C.
	Provincial Mental Hospital	Saanich, B.C.

Admissions, Discharges, Deaths and Total Patient Strength for the Year 1923

Total on strength December 31, 1922, 4,307. Total on strength December 31, 1923, 3,744.

Months	Admissions	Discharges	Deaths	Strength
January	1,011	879	48	4,391
February	756	681	37	4,429
March	709	805	33	4,300
April	715	848	33	4,134
May	728	995	50	3,817
June	598	688	31	3,696
July	574	655	34	3,581
August	710	780	34	3,477
September	534	537	29	3,445
October	745	706	42	3,442
November	756	515	29	3,654
December	680	546	44	3,744
Total	8,516	8,635	444	

FOREIGN RELATIONS SECTION

The number of re-examinations of ex-members of the Canadian forces residing outside Canada and of ex-members of the Imperial forces residing in the United States has increased slightly during the past year, there being 5,954 examinations requested in 1922, and 6,500 in 1923, as follows:—

Monthly average	3,842
Through the Overseas Office (including pensioners resident in Europe, Africa, Greenland, Iceland, and the British Isles)	1,725
Canadian pensioners residing in foreign countries (other than those dealt with through the Overseas Office)	125
Canadian pensioners residing in the United States	2,252
Imperials residing in the United States	2,398
	6,500

In the year 1922, 9,107 reports were received, while the number during 1923 was 7,535, as follows:—

Through the Overseas Office	1,827
From Foreign Countries (as above)	121
Canadians in the United States	2,767
Imperials in the United States	2,820
	7,535

These figures indicate that fewer ex-members of the forces reported, on their own initiative, for examination or treatment in 1923.

Statement of Patients as on December 31, 1923

CANADIANS IN THE UNITED STATES

In-patients on pay and allowances	121	
In-patients on treatment only, including mental	13	
Out-patients on pay and allowances	8	
		142

EX-IMPERIALS IN THE UNITED STATES

In-patients on pay and allowances	76	
In-patients on treatment only	4	
Out-patients on pay and allowances	4	
New Zealanders and Australians	4	
		88
Total on strength in United States		230

Treatment Completed During 1923

CANADIANS IN THE UNITED STATES

Discharged from hospital	653
Cases treated as out-patients	109
Died	23
	785

IMPERIALS IN THE UNITED STATES

Discharged from hospital	324
Cases treated as out-patients	52
Died	9
	385

STATEMENT OF EX-MEMBERS OF THE ALLIED FORCES TREATED IN CANADA DURING THE YEAR 1923

Force	On Strength Jan 1, 1923	Admissions	Discharges	Deaths	On Strength Dec. 31, 1923
United States	9	30	27	2	10
Newfoundland	10	9	19	0	0
French	2	0	0	0	2
Australian	1	1	1	0	1
Total	22	40	47	2	13

TUBERCULOSIS

Throughout the year 1923 the department has provided treatment, as in former years, for ex-members of the forces suffering from tuberculosis attributable to or aggravated by service.

The Jordan Memorial Sanatorium at River Glade, N.B., and the Laurentian Sanatorium at Ste. Agathe des Monts, P.Q., which had been operated by the department for some years, were returned to provincial control in the later months of the year 1923. Two institutions, the Sir Oliver Mowat Sanatorium at Kingston and the Central Alberta Sanatorium near Calgary, continue under departmental control. Treatment for departmental patients is provided by arrangement with other sanatoria throughout the Dominion.

Some statistics regarding tuberculous patients are given in the accompanying tables.

Reference to table I shows admissions, plus transfers from other classifications, totalling 1,563 for the year, as compared with 1,607 admissions in 1922. Deaths totalled 185 in 1923, compared with 214 in the previous year. Discharges from treatment, plus transfers to other classifications, totalled 1,524 compared with 1,595 in 1922. The average number on treatment strength at the end of each month was 1,045 in 1923 and 1,157 in 1922. There were on strength on December 31, 1922, 1,104 patients. The figure quoted in the report for 1922 (1,094) was in error. On December 31, 1923, there were 958 patients, a decrease of 146 as compared with the preceding year. The net decrease in patients under treatment at the end of the year is, therefore, again less than deaths that occurred.

TABLE I.—NUMBER OF TUBERCULOUS EX-SERVICE PATIENTS ADMITTED, DIED, DISCHARGED, AND REMAINING ON STRENGTH DURING THE YEAR, 1923

Month	Admissions	Transfers on	Deaths	Discharges	Transfers off	Strength
January	156	22	16	93	.....	1,173
February	119	3	16	75	.....	1,204
March	129	12	16	116	.....	1,213
April	132	12	15	154	.....	1,188
May	152	9	24	240	.....	1,085
June	113	5	19	159	.....	1,025
July	89	.....	11	123	25	955
August	110	4	12	129	.....	928
September	98	3	11	91	.....	927
October	146	5	19	132	.....	927
November	131	8	14	90	.....	962
December	105	.....	12	97	.....	958
Total	1,480	83	185	1,499	25	.....

Average on strength at end of each month, 1,045.

From table II it will be seen that 409 admissions during the year had not previously received treatment. This number represents 27.64 per cent of the total admissions, as compared with 485 or 30.2 per cent primary admissions in 1922. Readmissions were 72.36 per cent, compared with 69.8 per cent in 1922 and 55.7 per cent in 1921.

It will thus be seen that in 1923 a monthly average of 34 men were admitted for the first time for treatment for tuberculosis. The majority of these had been discharged from the forces four years and some even seven years.

By an amendment to regulations effected through Order in Council No. 1127, the department has been able to provide treatment only, without pay and allowances, for certain ex-members of the forces suffering from tuberculosis, in the development of which, factors and conditions apart from service have undoubtedly been the major cause, but where there is some possibility that service was a contributing though very minor factor.

TABLE II.—Ex-Service Men Taken on Strength for Treatment for Tuberculosis during 1923, analysed as Primary Admissions and Re-admissions

Month	As Primary Admissions	As Re-Admissions	Total Admissions
January	42	114	156
February	34	85	119
March	39	90	129
April	40	92	132
May	52	100	152
June	28	85	113
July	27	62	89
August	32	78	110
September	20	78	98
October	30	116	146
November	36	95	131
December	29	76	105
Total	409	1,071	1,480
Percentage	27·64%	72·36%	

Table III shows the admissions, discharges, deaths and number remaining on strength at the end of each month. It will be noticed that 209 were discharged, 21 died and 66 remained on strength December 31. A considerable number were transferred to pay and allowance, on further investigation, or on receipt of additional evidence to show that service may have been more than a minor factor, or that the disease was producing symptoms within one year from the date of discharge. The figures in table III are included in the totals in tables I and II.

TABLE III.—Number of Tuberculous Ex-Service Patients Admitted, Discharged, Died, and Remaining on Strength during Year, Treatment only.

1923	Admissions	Discharges	Deaths	Transfers to other Treatment or P. and A.	Strength
Strength; December 31, 1922					59
January	36	8	1	14	72
February	50	14		31	77
March	45	17	1	20	84
April	50	25	2	20	87
May	55	30	1	28	83
June	35	19	2	16	81
July	16	17	1	21	58
August	33	10	1	14	66
September	28	11	2	17	64
October	36	16	5	8	71
November	44	17	3	23	72
December	40	25	2	19	66
Totals	468	209	21	231	

Table IV is of some interest, in that primary admissions represent 39 per cent of the total on strength December 31, 1923, compared with 40.8 per cent in 1922. In last year's report it was pointed out that readmissions should increase from year to year until 100 per cent has been reached and until primary admissions become nil. Primary admissions cannot be expected to cease during the lifetime of ex-members of the forces who suffered from wounds or disease of such a nature as to result in the loss of lung function or increased susceptibility to tuberculosis. This table also gives some indication of the period of treatment required in 958 cases. It will be seen that of this number, 581 have been under treatment for a year or less, while 377 have required treatment continuously from one to five years.

TABLE IV.—Ex-Service Men on Strength for Treatment for Tuberculosis on December 31 1923, analysed according to years in which Admitted or Re-admitted

Year in which taken on Strength	As Primary Admissions	As Re-Admissions	Totals
1918 (After April 1)	9		9
1919	37	1	38
1920	33	19	52
1921	47	36	83
1922	91	104	195
1923	(27%) 157	424	581
Total on strength Dec. 31, 1923	374	584	958
Percentage	39·04%	60·96%	100%

Table V has been compiled from available data and is to be considered as only approximately correct. The figures show that of 10,707 patients who have received treatment for tuberculosis by this department, 8,654 were still alive on December 31, 1923. There are thus, 8,654 ex-patients who may in future require treatment. Of these, a certain percentage will inevitably relapse each year, and for these the department will have to provide sanatorium treatment. The increase of those living December 31, 1923, over the number living one year ago is 186, and until the new admissions are offset by the number of deaths, the number of potential cases for future treatment will not have reached its peak.

TABLE V.—Computed Number of Ex-Service Men taken on Strength for Treatment for Tuberculosis previous to December 31, 1923, and of those still Alive on that Date

Patients taken on strength for treatment for tuberculosis to Dec. 31, 1923		10,707
Tuberculosis patients struck off strength by death to Dec. 31, 1923	1,678	
Tuberculosis patients who died as pensioners not on treatment strength to Dec. 31, 1923	375	
Total patients taken on strength for treatment for tuberculosis, who died as pensioners or as patients, to Dec. 31, 1923		2,053
Total patients taken on strength for treatment for tuberculosis and who were still alive Dec. 31, 1923		8,654

Sheltered Employment and After Care

No general scheme of sheltered employment for the tuberculous has been undertaken. Of the total number treated and still living, some are still in sanatoria, some are totally disabled, others, classed as cured or arrested, have resumed former occupations or found suitable new ones in government and many other services, so that it is doubtful if more than a small percentage of those living would care to undertake sheltered employment if provided. The difficulty alone of concentrating these men, scattered throughout the nine provinces, in sufficient numbers in any centre for sheltered employment, renders the undertaking especially difficult. Fear of tuberculosis, the only real foundation of which is ignorance, is, nevertheless, present throughout Canada to such an extent that it is not possible to place tuberculous men in the Red Cross work shops together with non-tuberculous disabled men.

With only 958 men now under treatment, there are 4,962 ex-service men in receipt of pension for tuberculosis. The after care of these has, therefore, created a problem of relatively greater importance than treatment in institutions. For this, the department maintains Chest Clinics in the larger centres of all provinces and from time to time certain rural districts are covered by a Travelling Clinic. To these clinics men are referred on completion of treatment; they report for periodic examinations, the progress of each case is closely watched and every effort made to prevent relapse or to place the relapsed patient under treatment before serious damage has occurred. The clinics co-operate closely with the pension examiners, and the majority of revisional pension examinations of chest cases are made by the chest specialists in the clinics or in the sanatoria. Men called in to the clinic receive transportation and are reimbursed for expenses incurred and loss of time. During the year, the number of men under surveillance of these clinics totalled 5,400, this including other chest cases as well as the tuberculous.

Associated with the clinics in each unit is a staff of visiting nurses who make periodic visits to the tuberculous men in their homes, giving them the advice and assistance of a health visitor, and reporting to the clinic on the suitability or otherwise of living and working conditions and on the manner in which instructions are being followed and the restrictions that are necessary in recovery from tuberculosis observed. The visiting nurse is, therefore, an important link between the patient and the physicians, her visit often bringing the man to the clinic before serious relapse has occurred and her report enabling the physician to decide in some cases that treatment in an institution is necessary, in other cases treatment may continue at home or while following employment. Not the least important of the many services rendered by these nurses is the procuring of evidence to substantiate or support the claims of those applying for treatment for the first time, often some years after their discharge from the forces.

The department, therefore, provides every modern facility for diagnosis, treatment and after care of tuberculosis and assists, also, in every available way in establishing claims for treatment.

NEUROPSYCHIATRIC SERVICE

The total number of neuropsychiatric cases on the strength of the department for treatment has shown a gradual slight decrease during 1923. The accompanying chart indicates that the neuropsychiatric strength was maintained at a comparatively constant level from June, 1921, to December, 1922. The gradual decline now evident should be progressive.

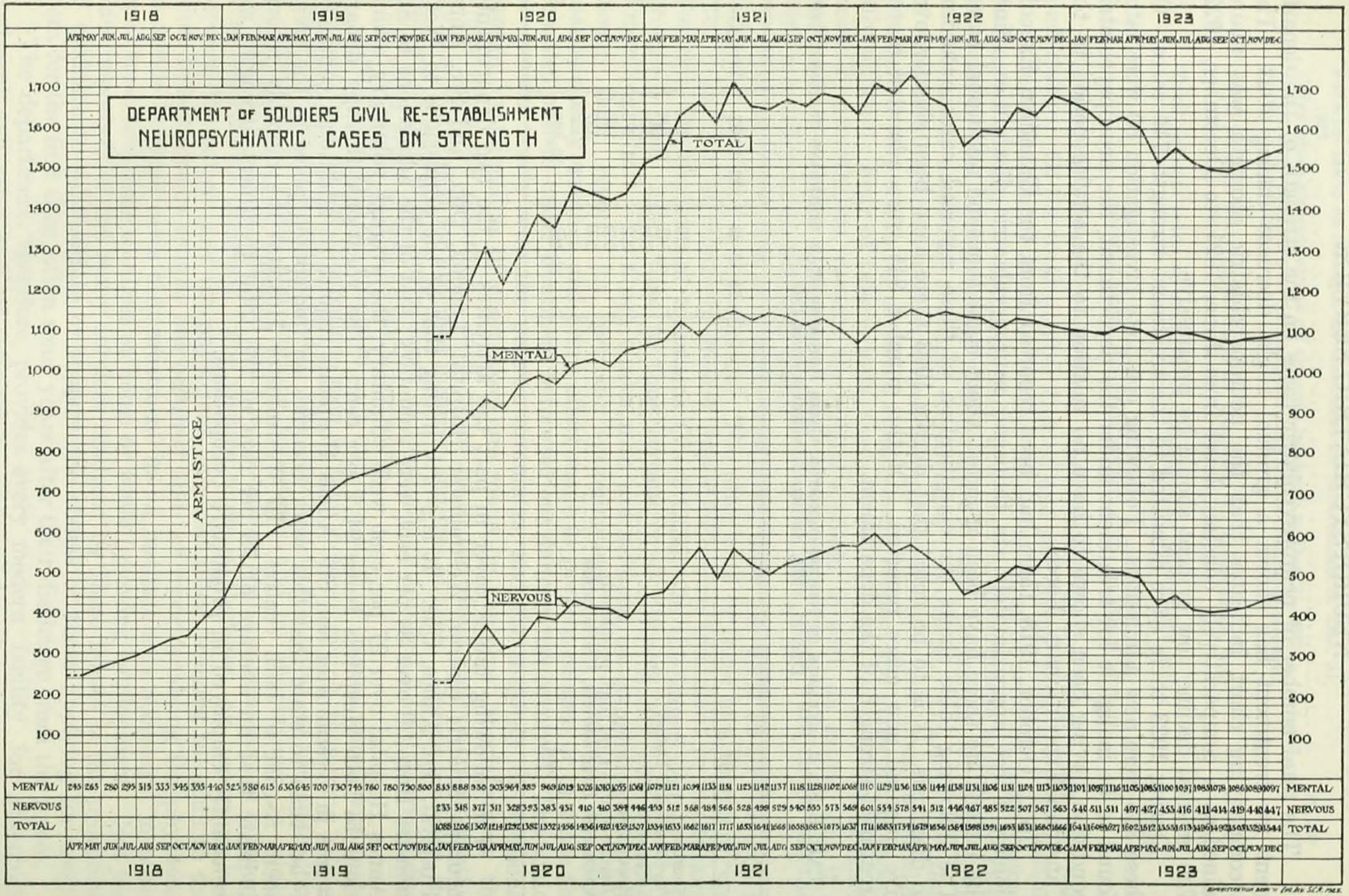
During 1923 there were admitted to the treatment strength 716 cases. Of these 345 were new admissions. Following complete investigation 60 were later found to be ineligible for treatment under the department, the neuropsychiatric condition having been shown to have no relation to the service period in the Canadian Expeditionary Force.

Up to October, 1918, there had been reported from the Canadian Expeditionary Force approximately six thousand neuropsychiatric disabilities. Since the latter date there have been reported about eight thousand additional cases. The following table shows the classification of these reported cases according to diagnosis. It is to be noted that during 1923 there have been slightly over five hundred new cases reported. Of this number 345 were admitted to the treatment strength of the department.

TABLE No. 2.—Number of Neuropsychiatric Cases Reported since beginning of War up to Dec. 31, 1923, Showing Increase since 1922

—	31–12–22	31–12–23	Increase
Neuroses	6,613	6,689	76
Psychoses and Defect	3,541	3,704	163
Epilepsy	798	818	20
Head injury	1,222	1,273	51
Organic-neurological (incl. peripheral)	662	858	196
Alcoholics, Drug addicts, Undesirables	350	357	7
Total	13,186	13,699	513

The following tables cover in part the activities of the two departmentai neuropsychiatric centres, Westminster Hospital, London, Ont., and Ste. Annes Hospital, Ste. Annes, Que. It is worth noting that of the admissions to Westminster Hospital over 84 per cent were voluntary; and of the admissions to Ste. Annes Hospital over 97 per cent were voluntary, the average voluntary admissions to both Hospitals being 91.2 per cent. The vocational-therapy departments in Westminster and Ste. Annes Hospitals require no additional comments other than to state that this work occupies an undisputed place in the treatment routine of both centres. In Westminster Hospital the monthly returns indicate that an average of 78 per cent of the total treatment strength was constantly employed in productive occupations.



	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
MENTAL	245	265	280	295	315	333	345	395	440	525	580	615	630	645	700	730	745	760	780	790	800	833	888	930	903	964	989	969	1019	1026	1010	1055	1061	1079	1121	1094	1133	1131	1125	1142	1137	1118	1128	1102	1068	1110	1129	1136	1138	1144	1138	1131	1106	1131	1124	1113	1103	1101	1097	1116	1105	1085	1100	1037	1088	1078	1086	1089	1097	MENTAL
NERVOUS																						233	318	377	311	328	393	383	431	410	410	389	446	459	512	568	484	566	528	498	529	540	555	573	569	601	559	578	541	512	446	467	485	522	507	567	563	540	511	511	497	427	453	416	411	414	419	440	447	NERVOUS
TOTAL																						1088	1206	1307	1214	1292	1382	1352	1458	1436	1420	1439	1507	1534	1633	1662	1617	1717	1653	1641	1666	1658	1683	1675	1637	1711	1688	1739	1679	1656	1584	1598	1591	1653	1631	1686	1666	1641	1608	1627	1602	1512	1553	1613	1496	1492	1505	1529	1544	TOTAL
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
	1918									1919												1920												1921												1922											1923											

TABLE N-3.—Admissions Departmental Hospitals, 1923

	Westminster		Ste. Annes	
	Voluntary	Commitment	Voluntary	Commitment
January	15	2	26	2
February	13	1	13	1
March	7	5	20	0
April	9	0	10	0
May	9	0	18	1
June	3	3	17	1
July	13	3	17	0
August	3	3	13	0
September	10	2	12	0
October	10	0	15	0
November	12	1	10	0
December	10	1	17	0
	114	21	188	5
	135		193	

84·4 per cent 97·8 per cent

Voluntary, both hospitals—91·2 per cent

TABLE N-4.—Discharges Departmental Hospitals, 1923

—	Westminster				Ste. Annes			
	Recovered, Improved	Unimproved	Died	Total	Recovered, Improved	Unimproved	Died	Total
January	6	0	1	7	7	3	1	11
February	3	5	0	8	15	4	1	20
March	6	2	1	9	10	4	2	16
April	10	3	1	14	11	2	1	14
May	5	2	0	7	12	3	0	15
June	12	5	0	17	10	9	1	20
July	9	3	0	12	14	2	1	17
August	22	4	2	28	15	2	1	18
September	6	1	0	7	7	5	0	12
October	10	2	0	12	6	1	2	9
November	5	0	1	6	5	2	1	8
December	8	4	1	13	7	0	0	7
Totals	102	31	7	140	119	37	11	167

TABLE N-5.—Diagnoses, all Cases in Residence monthly, during 1923, Ste. Annes Hospital

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Dementia praecox	216	215	215	211	214	219	221	222	222	223	226	228
Neurosis	28	34	27	24	27	22	18	23	20	15	19	23
Primary mental defect	17	19	22	23	23	23	22	22	22	22	20	20
Epilepsy	11	11	13	13	14	11	11	11	9	9	10	12
Cerebro-spinal syphilis	15	13	13	11	13	14	13	12	12	13	13	14
Alcohol	5	5	5	5	6	6	5	5	5	6	6	6
Drugs	6	5	3	2	2	2	2	2	2	2	2	2
Surgical	1	1	1	1	1	1	1	0	0	0	0	1
Others	27	31	33	37	38	36	38	30	27	24	27	27
Totals	326	334	332	327	338	334	331	327	319	314	323	333

TABLE N-6.—Diagnoses, all Cases in Residence Monthly, During 1923, Westminster Hospital

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Dementia praecox	269	266	268	269	269	268	273	266	269	260	263	267
Neurosis	37	39	39	37	38	35	38	32	33	34	33	33
Primary mental defect	31	31	31	29	31	28	26	24	25	31	34	31
Epilepsy	32	35	35	37	36	34	34	29	28	27	26	28
Cerebro-spinal syphilis	20	34	26	25	25	25	25	22	22	22	25	25
Alcohol	1	2	3	2	2	2	2	2	2	2	1	0
Drugs	4	3	2	4	3	3	4	4	4	4	4	4
Surgical	0	1	0	0	0	0	0	0	0	0	0	0
Others	37	36	36	32	33	31	28	29	29	30	31	33
Totals	431	447	440	435	437	426	430	408	412	410	417	421

TABLE N-7.—Percentage of all In-Patients Occupied Westminster Hospital, 1923

	Per cent
January	80
February	77
March	84
April	80
May	76
June	71
July	77
August	74
September	80
October	82
November	77
December	76

Average: 77·83 per cent.

REPORT OF MEDICAL STORES SECTION FOR THE YEAR 1923

The department has continued the policy of centralized purchasing and distribution of medical and surgical supplies. The operating of one Central Depot at Toronto, made possible by the closure of several hospitals, has resulted in further economies. In addition to reduction of operating costs, this consolidation has made possible the closer standardization of many lines, concentration of buying power, and added advantages in manufacturing the various lines in stores. The movement of stock has been facilitated, and, as the following statement will show, there has been a considerable decrease in expenditure with a corresponding decrease in the value of stock carried:—

Total value of stock on hand Dec. 31, 1922	$ 40,179 52
Total value of goods received in stores, 1923	82,080 12
Total value of goods issued from stores, 1923	97,757 48
Total value of stock on hand in stores as at Dec. 31, 1923	24,502 16

DIETETICS

The food supply in the hospitals and sanatoria is of as vital consideration as ever, and the system inaugurated in 1917, providing one or more dietitians, according to the size and nature of the institution, has been continued with satisfactory results. The dietitian is responsible for the efficiency of food service, which includes the requisitioning of food stuffs, preparation and distribution, management of employees and general sanitation of the Diet Department. Each dietitian submits a monthly report to Head Office analyzed as to amounts, prices and the total cost of each classification of food used in the institution; also a summary of menus provided and details of special diets. These reports are reviewed at Head Office and criticism of same is returned to each institution. In some cases where gardening operations have been carried on fairly extensively, also some poultry raising, primarily for curative purposes, the institution has benefited considerably.

The newest and perhaps most scientific branch of the food work has been carried on in connection with the Diabetic Clinic. The correctly prepared, proportioned and selected diet is so intimately allied with the treatment that it has necessitated the closest co-operation of the Dietary Department with the Medical Staff in charge of the clinic. The preparation of food for diabetics is arranged for quite separately from the general food supply and is done under the supervision of the dietitian. Materials used are weighed and left overs from trays, if any, weighed and checked. Patients are instructed regarding the food that is permissible and the articles of diet to be avoided. On leaving hospital each patient is provided with a copy of all recipes used, information regarding certain foodstuffs and where obtainable, also a copy of "Insulin Diabetic Diet Table." Thus the patient is encouraged and provided with an intelligent conception of the ways and means to continue the treatment at home.

DENTAL SERVICES

The method of rendering dental services, explained in previous annual reports, was followed during 1923.

The undermentioned clinics have been closed:—

Sydenham Hospital, Kingston, Ontario.
Brant Hospital, Burlington, Ontario.
Hut Hospital, Hamilton, Ontario.
Tower Building, Vancouver, B.C.

A further reduction in the number of employees from 60 to 46 has been effected.

An analysis of the patients treated and services rendered during the year January 1, 1923, to December 31, 1923, appears below:—

DEPARTMENTAL CLINICS

Operations	Canadians	Imperials	Other Forces	Total
Amalgam fillings	5,941	181	9	6,131
Temporary fillings	2,802	93	2	2,897
Cement fillings	2,252	35	.....	2,287
Synthetic porcelain fillings	2,281	44	.....	2,325
Pulp caps	1,365	30	1	1,396
Devitalizations	725	5	.....	730
Root fillings	1,085	14	.....	1,099
Treatment putrescent pulp	5,617	281	4	5,902
Pyorrhoea and trench mouth	5,957	88	.....	6,045
Abscess, gum and special treatments	1,437	120	5	1,562
Prophylaxis	5,050	66	1	5,117
Radiographs	202	17	.....	219
Local anaesthetics	6,458	132	4	6,594
General anaesthetics	258	21	.....	279
Extractions	10,852	673	6	11,531
Impressions	3,301	293	3	3,597
Bites	2,363	247	3	2,613
Try-ins	2,307	229	4	2,540
Full upper dentures	639	55	.....	694
Full lower dentures	353	24	.....	377
Partial dentures	1,303	104	1	1,408
Gold clasps	2,305	202	5	2,512
Cast clasps and occlusial rests	14	7	.....	21
Lingual bars	19	2	.....	21
Gilmore, Roach and other special attachments	39	.....	.....	39
Gold and porcelain crowns and dummies	137	25	2	164
Facings and backings	44	.....	.....	44
Gold inlays and fillings	16	.....	.....	16
Crowns and bridges repaired and reset	138	1	.....	139
Dentures adjusted, repaired and reset	2,173	36	5	2,214
Root preparations	53	.....	.....	53
Special examinations and consultations	30	1	.....	31
General examinations	4,216	263	7	4,486
Totals: Operations	71,732	3,289	62	75,083
Cases completed	3,454	221	5	3,680

CIVILIAN DENTAL REPRESENTATIVES

Operations	Canadians	Imperials	Other Forces	Total
Amalgam fillings	1,559	67	7	1,633
Cement fillings	60	.....	.....	60
Synthetic porcelain fillings	535	17	.....	552
Pulp Caps	51	1	7	59
Devitalizations	133	3	.....	136
Root fillings	138	3	.....	141
Pyorrhoea and trench mouth	202	2	2	206
Abscess, gum and special treatments	72	.....	.....	72
Prophylaxis	308	11	1	320
Radiographs	4	.....	.....	4
Local anaesthetics	231	10	1	242
General anaesthetics	7	1	.....	8
Extractions	1,453	88	1	1,542
Full upper dentures	222	12	.....	234
Full lower dentures	122	6	.....	128
Partial dentures	359	16	1	376
Gold clasps	670	29	2	701
Lingual bars	9	.....	.....	9
Gilmore, Roach and other special attachments	5	.....	.....	5
Gold and porcelain crowns and dummies	67	17	.....	84
Facings and backings	6	.....	.....	6
Gold inlays and fillings	21	1	.....	22
Removable bridges	1	.....	.....	1
Teeth added to existing dentures	38	1	.....	39
Crowns and bridges repaired and reset	14	.....	.....	14
Dentures, adjusted, repaired and reset	42	3	.....	45
Examinations	731	36	4	771
Totals: Operations	7,060	324	26	7,410
Cases completed	731	36	4	771

Included in the above are three cases (Canadian), two completed in Great Britain, the other in Japan.

UNITED STATES VETERANS' BUREAU

Operations	Canadians	Imperials	Other Forces	Total
Amalgam fillings	304	131	.....	435
Cement fillings	10	4	.....	14
Synthetic porcelain fillings	114	50	1	165
Devitalizations	3	1	.....	4
Root fillings	10	14	.....	24
Pyorrhoea	56	22	.....	78
Prophylaxis	70	53	.....	123
Radiographs	105	139	.....	244
Extractions	583	481	18	1,082
Full upper dentures	58	39	1	98
Full lower dentures	30	28	.....	58
Partial dentures	77	79	1	157
Gold clasps	34	35	.....	69
Lingual bars	7	5	.....	12
Special attachments	3	3	.....	6
Gold crowns and dummies	27	16	.....	43
Gold inlays	3	9	.....	12
Dentures and bridges repaired	5	16	.....	21
Special treatments	11	23	.....	34
Examinations	70	64	.....	134
Totals: Operations	1,580	1,212	21	2,813
Cases completed	180	135	1	316

POST DISCHARGE TREATMENT COMPLETED UNDER THE PROVISIONS OF ORDER IN COUNCIL, P.C. 963

Canada.....40 United States..14 Great Britain... 3 Belgium..... 1 Total.....58

SUMMARY

Number of cases completed, all forces, all countries	4,825
Number of operations, all forces, all countries	83,306

Included in the above total of completed cases are the following:—

DIRECT DENTAL INJURY

Canada..... 171 United States..... 10 Japan..... 1 Total..... 182

CROWN AND BRIDGE

Free of charge..... 60 Charges made..... 10 Total..... 70

ADMINISTRATION BRANCH

During the year 1923 a further consolidation of the administrative work of the department has been made and the number of divisions thereby reduced.

The Training Division has disappeared entirely, the small amount of work now being carried on partly in the office of the director and partly in the Authorization of Pay and Pensions Division. The Records Division and the Central Registry have been brought together. The Purchasing and Sales and the Stores and Equipment Divisions have also amalgamated under one head.

So that at the close of the year we have seven divisions instead of ten, as follows: Insurance, Imperial Pensions, Orthopædic and Surgical Appliances, Authorization Pay and Pensions, Purchasing and Stores, Engineering, and Records and Registry.

A further reduction in staff was made during the year owing chiefly to consolidation of the work.

	Staff	Salaries
Administration Branch, Dec. 31, 1922	1,110	$ 1,314,808
Reduction during the year	191	214,928
Dec. 31, 1923	919	1,099,880

The salaries of the staff employed in the Orthopædic and Surgical Appliances Branch are absorbed in the cost of manufacturing and are not a charge against the general salary appropriation and they are not included in the statement shown above.

	Staff	Salaries
O. and S.A Division, Dec. 31, 1922	176	287,076
Reduction during the year	51	63,326
Dec. 31, 1923	125	223,750

VOCATIONAL TRAINING, LOANS, EMPLOYMENT AND RELIEF

Owing to the continued decrease in the number of applications under the above headings, it has been possible to considerably reduce the number of persons previously engaged in these duties.

Training

One hundred and ninety-four soldiers were accepted for training during the period January 1, 1923, to December 31, 1923. These trainees were given training for the following reasons:—

(1) Released from hospital after long period of treatment.

(2) Inability to carry on in previous vocation by reason of increase in pensionable disability.

(3) Inability to carry on in the occupation for which they had been previously trained for the same reason as given under (2).

The total number who have commenced training is 52,228; these are accounted for as follows:—

Graduated—1919	9,455
" 1920	27,371
" 1921	5,086
" 1922	693
" 1923	309
In training at 31–12–23	101*
Cancelled or discontinued since commencement	9,213
Total	52,228

*Of this number 6 are receiving training in the British Isles.

Loans

The work in connection with loans is now practically restricted to the collection of payments as they fall due.

During the year 73 new applications were approved, entailing an expenditure of $31,742.

The financial statement discloses a most satisfactory situation. It will be noted that of the total expenditure, $331,277.73 or 55 per cent has been repaid in cash; $93,359.60 or 15 per cent has been recovered by transfer to Government departments of equipment repossessed on discontinued loans, and $180,-142.30 or 30 per cent still remains unpaid.

The condition of the current accounts is most gratifying; many of the loanees retiring their notes before maturity.

BALANCE SHEET

	$ cts.
Total Loans	604,779 63
Cash Repayments	331,277 73
Transferred to Government	93,359 60
Balance Outstanding	180,142 30

DIVISION OF FUNDS

Number	Loans	Repaid	Outstanding	Total
		$ cts.	$ cts.	$ cts.
732	Current	153,743 27	151,475 41	305,218 68
187	Discontinued	42,844 50	28,666 89	71,511 39
495	Fully Repaid	138,374 13	.....	138,374 13
275	Fully Recovered	89,675 43	.....	89,675 43
1,689		424,637 33	180,142 30	604,779 63

It is estimated that eventually there may be a financial loss of a few thousand dollars on loan accounts due to the fact that in a few instances loanees have disposed of their equipment and left for parts unknown, and in other cases equipment did not realize the outstanding debit balance and for various reasons the remaining balance may be uncollectable.

Employment

Some progress has been made during the year towards amalgamating the Employment Service of the department with that of the Employment Service of Canada. The Government of the province of Manitoba has recently taken over the work leaving the provinces of British Columbia, Ontario and Quebec with the two services still in operation. Negotiations with the three provinces mentioned above are still being carried on by the Department of Labour.

The employment situation as regards disabled ex-service men has been much better during 1923 than in the two previous years. In 1921 the peak load of unemployment was reached in the month of March with 9,155 disabled soldiers out of employment. In 1922 the peak was reached in the month of March with 10,951 disabled soldiers out of employment. In 1923 the peak was reduced in the month of January with 5,050 disabled soldiers out of employment.

Present figures indicate that there will be much less unemployment among this class of ex-soldiers during the present winter and coming year.

Employment of Disabled Men in the Federal Civil Service

Disabled men by law are granted preference in the filling of vacancies in the Federal Civil Service, the head of the Special Employment Section, Head Office, acts as a liaison officer between the Civil Service Commission and the department, and pushes to the fullest extent the claims of the disabled ex-service men for this preference.

The Employment Section is also in a position through having access to the files of the department to furnish information on short notice to the officials of the Civil Service Commission, regarding the percentage of disability of the various applicants for positions, also, information as to whether in view of his disability, the applicant can undertake the work in the position offered. Close touch is maintained with the heads of branches of the various Government departments in Ottawa, so that no opportunities for the placing of disabled men in the Civil Service will be overlooked.

The following figures indicate the assignments of active service and disabled men made by the Civil Service Commission:—

	1921	1922	1923	Totals
Disabled men	970	516	375	1,861
Ex-service men (not disabled)	1,218	920	817	2,955

Training and Employment in Government Departments

The policy of training disabled veterans under Order in Council P.C. No. 2944, has been continued. During the year 1923, thirty men (including three who were training at the close of 1922) have completed training under the provisions of this Order in Council, and have been retained by the departments.

Relief

It was found necessary to give relief to disabled ex-service men who were out of employment during last winter and to a very limited extent during the summer months. The amount of relief given each month was as follows:—

	$ cts.		$ cts.
January	97,669 55	July	2,597 99
February	91,375 84	August	1,911 82
March	81,972 27	September	1,429 36
April	72,932 03	October	2,468 89
May	7,740 52	November	5,771 54
June	2,334 41	December	20,965 93
		Total	389,170 15

The amount granted during the year 1922 was $1,665,872.90.

Blinded Soldiers

As stated in previous annual reports of the department the training and aftercare of Canadian blinded soldiers has been dealt with to a large extent under an arrangement between the department and the Canadian National Institute for the Blind whereby the latter has made available its established facilities for the training and care of civil blind people and at the same time has arranged special training and aftercare facilities where such were necessary to meet the special needs of blinded soldiers. The Canadian National Institute for the Blind was particularly fitted to carry out this work in an organized way due to its being generally established throughout Canada. The general results have been entirely satisfactory, aftercare having been placed on a permanent basis which will ensure that individual blinded soldiers, wherever located, may at all times in the future receive the special care and attention suited to their particular requirements.

The training of the various men has been carried out without delay and without removing the men from their home districts. Local institute facilities or other local connections have been made in each case with satisfactory results and with considerable economy. It would not appear that any large number of men will come forward for training in the future but there will continue to be scattered cases numbering possibly eight to ten each year who must be provided for.

TRAINING—GENERAL

The training of blinded soldiers for the year under review has been more in the nature of post graduate or brush-up courses with special training for certain individual cases. Owing to the small numbers of men requiring such training and the fact that their needs became apparent at various times during the year, also in most cases the training required was not such as would make feasible the arrangement of classes, regular facilities of the Canadian National Institute for the Blind were made use of or special arrangements were made with other organizations or individuals qualified.

Seven men were given training during the year as follows:—

Dictaphone and typing (initial) 1 not completed.

Willow basketry (one initial and two post graduate) 3 completed.

Braille and reed work (initial) 3 completed.

AFTERCARE

The aftercare arrangement facilities are now working smoothly in a routine manner. Services to blinded soldiers throughout Canada have been fairly general in application including the provision of Braille literature, and a monthly

Braille magazine, *The Courier*, the provision of typewriting ribbons, paper and envelopes for men using typewriters, particularly where such materials were difficult to obtain locally, the provision of Braille writing materials for men using their Braille writing machines, assistance in the purchase of various supplies required in other activities, and assistance through small loans to men requiring such, the employment in institute shops, purchase of products by those working in their homes by the institute sales room, in short a helping hand to make their way a little smoother wherever necessary.

Previous to the year under review an aftercare trip was made during which each man was called on in his own home with a view to checking progress and needs. During the present year it was felt preferable to arrange for a reunion of blinded soldiers at Pearson Hall, Toronto, as an alternative. Arrangements for this reunion were commenced in the late spring and the date for the meeting was set as September 7, 8 and 9. Arrangements were effected under which travel and berth expenses for blinded soldiers and guides living at distant points, desirous of attending, were covered. At the same time all blinded soldiers and escorts coming in from distant points received board and lodging without charge during the reunion period. Men from the two extremes of Canada, Halifax and Victoria, were in attendance along with others from all parts of the Dominion and one man came from Phœnix, Arizona. The reunion was an unqualified success and represents the largest gathering of Canadian blinded soldiers that has ever occurred in Canada, 71 being in attendance, of whom 28 only were local men.

It is felt that the men now have a better understanding of the efforts being made on their behalf and of the co-operation existing between the D.S.C.R. and the Canadian National Institute for the Blind. They also realize to a far greater extent the important part played by the Institute in their affairs and the great good that can be accomplished if they accord their undivided sympathy and support toward efforts on behalf of the civilian blind.

Sheltered Employment

Considerable progress has been made in this phase of the department's work during the past year and satisfactory arrangements were completed with the Canadian Red Cross Society whereby Vetcraft Workshops have been opened up at Winnipeg and Halifax.

In order to co-ordinate the work and ensure a uniform policy between the shops, a conference was held at Winnipeg in July between the Canadian Red Cross Society and officials of the department. The conference was well attended and resulted in a clearer understanding of the departmental regulations and assisted in adjusting many of the problems which confronted the workshop committees.

The growth of the work resulted in the appointment of a Supervisor of Vetcraft whose duties are to supervise the workshops directly operated by the department, and to act as liaison officer and technical adviser to the shops operated by the Red Cross Society.

The department continues to operate Vetcraft shops at Toronto, Hamilton, London and Kingston. Unfortunately the shop at Kingston was totally destroyed by fire in January. Owing to the necessity of having some provision for sheltered employment in Kingston, the shops were reopened in June, but instead of manufacturing the men were engaged in employment of a light nature. This experiment has been a decided success and the men are employed on the average for about seventy per cent of their actual time.

The question of pay was one which had for some time received the serious consideration of the department, as it was considered that the method of paying men on the basis of Pay and Allowances was wrong in principle and that the success of the shops depended on the payment of an hourly rate for actual time worked. The change went into effect on the first of May and has been thoroughly justified. All the men in the shops throughout the Dominion are now paid on an hourly basis.

Workshops are operated by the Canadian Red Cross Society at Halifax, St. John, N.B., Montreal, Winnipeg, Vancouver and Victoria, and in each case the agreement with the department provides that it shall be responsible for the payment of eighty-five per cent of the capital expenditures and seventy-five per cent of the operating loss per man per month up to a maximum of thirty dollars. It is further agreed that the standard month shall be reckoned as one hundred and seventy-five working hours.

Practically all the poppies which were distributed throughout the Dominion on Armistice Day were manufactured at the Vetcraft Shops, and it is hoped that the department will be able to undertake this work each year. A demand has been created throughout Canada for vetcraft products and it is considered that the shops are forming the basis of a permanent industry although the work is still experimental in nature.

The number of men on the strength in the shops on December 31, 1923, was 319, distributed as follows:—

Red Cross Workshops—		D.S.C.R. Workshops—	
Halifax	15	Toronto	108
St. John, N.B	22	Hamilton	35
Montreal	25	Kingston	12
Winnipeg	28	London	14
Vancouver	31		
Victoria	29		

The average cost per man per month based on the returns for the past three months for each of the shops at present in operation is as follows:— St. John, N.B., $22.48; Montreal, $42.95; Kingston, $18.96; Toronto, $36.90; Hamilton, $41.32; Winnipeg, $34.11; Vancouver, $42.47; Victoria, $37.53; average, $34.59. Halifax and London, Ont., no definite statistics available.

Since P.C. 2328 has been in operation, 954 men have been struck off strength, and of this number, practically 55 per cent have gone to regular employment or, owing to increase in pension, have taken their discharge from the shops. Twenty-six per cent have been transferred to the Treatment Branch or been struck off strength on account of sickness or death. The balance, 19 per cent, are unemployed in so far as the records show.

The experiments and observations carried on in the various shops during the period of operation have undoubtedly substantiated the fact that they are of valuable assistance in fitting the men for regular employment. A great number of the cases to whom assistance has been given have had considerable hospitalization since discharge from the army, with the result that they have lost all confidence of ever again successfully taking their place in the regular labour market. The experience in the shops, however, has shown them that they have an earning capacity and are able to accept responsibility, with the result that many of the better type of men soon graduate into regular employment. There is a certain class of men who are dealt with and who will constantly require sheltered employment, and for whom the possibilities of employment are practically negligible beyond that given by the Vetcraft Shops.

During 1923 there were 65 meetings of the head office Disablement Board, and 466 cases were dealt with. Of these 377 were passed as eligible for workshops, 30 for other assistance, while 59 were considered ineligible for any type of assistance.

INSURANCE DIVISION

On September 1, 1923, the period for obtaining insurance under the Returned Soldiers' Insurance Act expired, applications having been accepted for a period of three years and insurance to the value of approximately $75,000,000 having been issued. The outstanding feature of the administration of the Act during the year was the remarkable volume of business received during the closing weeks of the application period. In the month of August, 12,249 applications were received—more than double the number received during the whole of the first year in which the Act was in force and more than one-third of the total for the entire period of three years.

The total number of policies issued under the Act now stands at 33,700, representing an insurance value of seventy-five million dollars. The premium income amounts to $1,390,000 annually. Thus the volume of business administered by the department through this division is comparable to that handled by some of the leading life insurance companies of the Dominion.

By an Act amending the Returned Soldiers' Insurance Act, which came into effect on July 1, 1922, certain restrictions were introduced providing that insurance would not be granted in certain classes of cases, if the health of the applicant was seriously impaired. From July 1, 1922, until January 1, 1923, this limitation applied only to unmarried men without dependents. On January 1 it extended, under the Act, to applicants with dependents with the exception of those whose impairment of health was due to service and therefore pensionable.

The Royal Commission on Pensions, Insurance and Soldiers' Civil Re-establishment, brought forward certain recommendations which were incorporated into an amendment which was passed by Parliament on June 30, 1923. This amendment provided that applications previously refused, owing to condition of health, were to be accepted if the applicant had dependents at the time he made application for the insurance and had lived for a sufficient period of time to allow of the acceptance of the application in the ordinary course of procedure.

In order to carry out the provisions of this amendment it was necessary to review all applications which had been refused owing to the state of the applicant's health. This review was speedily carried out and when completed, it was found that ten applications were affected by the amendment. These applications were then accepted and the claims settled forthwith.

A feature of the Returned Soldiers' Insurance Act is the privilege allowed policyholders of paying their premiums monthly without extra charge. This provision was included particularly for the benefit of ex-members of the forces who are in receipt of disability pension and has been taken advantage of to a large extent by persons in receipt of such pension. At the present time over 8,000 premiums are being deducted monthly from pensions of policy-holders, representing an investment of $40,000 per month in life insurance. In many cases where the monthly pension is comparatively small the whole amount is applied to pay for insurance.

In addition to the pensioners who pay their premiums monthly, remittances are received from some 12,000 other policyholders making a total of 20,000 premiums amounting to $116,000 monthly. Ordinarily life insurance premiums are payable yearly or half-yearly and seldom less frequently than quarterly. The monthly payment system creates a larger volume of work per policy in recording and accounting for renewal premiums but the cost of administration under the Returned Soldiers' Insurance Act, notwithstanding this, is only 5·20 per cent of the renewal premium income.

It is gratifying to be able to report that the rate of lapse has continued to be very low when compared with the rate of lapse ordinarily experienced in life insurance generally. The lapsing of policies has always been a problem of major importance to insurance companies as a large portion of the new business written each year is lost by reason of non-payment of premiums. The low percentage of lapses under the Returned Soldiers' Insurance Act indicates the stability of insurance applied for by the individual on his own intiative. During the period January 1, 1923, to December 30, 1923, the net lapses amounted to 8 per cent of the total business issued.

All policies issued under the Act contain provisions which prevent the policy lapsing after it has been in force for two years or more. As no more policies are being issued under the Act, all policies will mature for this privilege within a maximum period of two years from September 1, 1923. After that date there will be no possibility of any policy lapsing. If premiums are not paid it is automatically continued in force, or otherwise adjusted under the non-forfeiture provisions.

Between the date of this report and the final date upon which a policy can lapse, the lapse rate should become even lower than at present as fewer and fewer policies will be subject to lapse for non-payment of premium.

The mortality rate under the Returned Soldiers' Insurance Act is not exceptional, considering the class of risk which is taken. During the current year 289 claims were received. Of these 65 were settled under section 10 of the Act which provides that maximum of $500 insurance shall be payable. The net claims, therefore, amounted to 224 which is 0.63 of the total business issued.

As originally passed the Act provided that if pension was awarded to dependents of a policyholder such pension would be capitalized and deducted from insurance. The effect of this was that in most cases if pension was awarded no insurance would be paid. By an amendment made in 1922 this condition was modified to the extent of authorizing the payment of five hundred dollars on account of insurance, whether pension is awarded or not, in cases where the beneficiary is the widow or child of the insured and the policy has been in force six months or more. The amendment has proved considerable assistance to beneficiaries as the department may now forward a cheque for five hundred dollars immediately upon receipt of proof of the claim in these cases. It was formerly necessary to delay payment of insurance until the question of entitlement to pension was decided upon and this sometimes involved waiting until a lengthy investigation was carried out. During the year an advance was made prior to final settlement of the claim in 132 cases.

STATEMENT FOR PERIOD JANUARY 1 TO DECEMBER 31, 1923

Applications

Applications received to Dec. 1922	18,539
Applications received Jan. to Dec. 1923	15,904
	34,433
Applications refused or ineligible to Dec. 1923	827
Net applications to Dec. 1923	33,616

Death Claims

Policy value of death claims to Dec. 1922	434	$ 1,431,000
Policy value of death claims—Jan. to Dec. 1923	289	822,000
Total value of death claims, Sept. 1920 to Dec. 1923	723	$ 2,253,000

STATEMENT FOR PERIOD JANUARY 1 TO DECEMBER 31, 1923—*Concluded.*

DEATH CLAIMS—*Concluded*

Settled by cash payment or annuity to Dec. 1922	290	$ 940,762 67
Settled by cash payment or annuity—Jan.–Dec. 31, 1923	208	711,457 50
	498	1,652,220 17
Insurance cancelled by Sec. 10, R.S.I. to Dec. 1922	93	$ 273,157 13
Insurance cancelled by Sec. 10, R.S.I. Jan.-Dec. 1923	65	146,622 70
	158	$ 419,779 83
Claims pending settlement at Dec. 1923	67	
Lapses to Dec. 1922	3,494	$ 8,576,500
Lapses to Dec. 1923	2,972	6,829,000
	6,466	$ 15,405,500

RE-INSTATEMENTS

Re-instatements to Dec. 1922	1,865	$ 4,705,500
Re-instatements to Dec. 1923	2,403	5,538,500
	4,268	$ 10,244,000
Net Lapses	2,198	$ 5,161,500

INCOME AND EXPENDITURE

Balance as at Dec. 31, 1922	$ 780,100 59
Jan–Dec. 31, 1923	$ 1,371,012 54
	$ 2,151,113 13
Expenditure, Jan.–Dec. 1923	$ 454,456 33
	$ 1,696,656 80

IMPERIAL PENSIONS DIVISION

Although, as could normally be expected, a large number of Imperial pension accounts have been closed during the year, due to various causes, such as recovery from disability, remarriage of widows, the age limit for children being reached and the removal of pensioners to places outside the jurisdiction of the department, immigration and post-demobilization claims have more than offset the reduction so that whereas at December 31, 1922, the Imperial pension Division was responsible for the administration of 16,898 pensions of all classes, that number increased at December 31, 1923, to 18,402 pensions. During the period under review the division opened 6,543 new pension accounts and closed 5,039, an increase of 1,504 pensioners, or about 8.9 per cent, and an average of 545 new accounts monthly.

In the "Officers' Section," which deals with pensions to disabled officers and to dependents of deceased officers, nurses and commissioned warrant officers of the Navy, Army, Air Force and Indian Army, also the Royal Irish Constabulary, Civil Service pensions, etc., a net increase of 462 accounts is shown. At December 31, 1922, there were 3,011 accounts open, which figure included a considerable number of non-active accounts and at the first of the present year these were moved to non-effective transfer accommodation so that the section commenced the year with 2,142 active accounts. With new accounts numbering 2,243 the section closed 1,781 accounts, or an increase of approximately 22 per cent.

The "Ledger Section," dealing with all pensions of every class to, or in respect of, all ex-members of the Imperial forces below commissioned rank, commenced the year with 14,756 accounts. At December 31, new pensioners had been taken on strength to the number of 4,300 and 3,258 accounts had been

closed, an increase of 1,042 accounts or approximately 7 per cent. In this section the principal classes of pensioners are:—

	Number as at 31-12-22	Number taken on during year	Number struck off during year	Number as at 31-12-23
1. Disability pensioners at British rates residing in Canada	3,867	1,710	1,213	4,364
2. Disability pensioners at British rates residing in United States	2,343	957	753	2,547
3. Disability Pensioners at Canadian rates, in Canada and United States	1,448	101	233	1,316
4. Widows and Dependents at British rates in Canada and U.S.A	3,932	1,099	611	4,457
5. Widows and Dependents at Canadian rates in Canada and United States	352	17	19	350
6. Service Pensioners and Army Reserve in Canada and United States	1,413	110	199	1,324
7. Naval Service and Pre-War disability Canada and United States	1,222	145	141	1,226
8. All others	179	161	89	214
Totals	14,756	4,300	3,258	15,798

The foregoing statement contains some points of interest. In the first group the increases in strength in so far as they are above normal are explained by the large number of workers who came to Canada for the harvest, and the net increase of 227 in the second group represents the excess in emigration to the United States over the number of pensioners struck off. In the third group, which covers all disability pensioners on Canadian rates, a decrease is shown for the period. The reason for this is that as time goes on, the number of pensioners eligible to make the election between Canadian and British rates is materially reduced. Perhaps the most interesting figures are those in group four—"Widows and Dependents." There has been a monthly increase of practically 100 pensioners, almost wholly due to immigration. Of this number about one-half have settled in the United States and the remaining half in Canada. It will be noted that 611 accounts were closed. Of this number probably one-third is due to re-marriage of widows and the remaining number represents pensioners in this group who have returned to England, with a small allowance for deaths and cessation of pension for other reasons. In group six a decrease of 89 is shown and group seven has remained almost unaltered in strength. These two classes are made up of veteran soldiers, mostly with considerable service, who, after a time in Canada or the United States, experience the desire to return to the British Isles.

With regard to the future, the measure of ordinary immigration from the British Isles will be more or less the measure of increase or decrease of the number of Imperial pensioners under the administration of the department.

The report of the "Awards Section" shows a decided reduction in the number of awards made and this is a very satisfactory condition as will be seen by comparison of the figures for the years 1922-23 and the explanations which follow:—

	1922	1923
Canadian (new) awards	137	71
Canadian renewal awards	1,561	1,228
Canadian final payments	62	25
Amended awards	579	283
"No payment" awards (Art. 9, pre-war disability, etc.)	1,308	717
Imperial interim awards	1,314	639
Imperial renewal awards	4,149	3,552
Comparative rates for election	183	84
Total	9,293	6,599
Statutory Final Awards recommended	Nil	775

New Canadian awards are less by nearly one-half and should continue to reduce as the only pensioner now eligible to elect between the two schemes of pension is the one who makes, successfully, an initial claim to Imperial pension. The Canadian renewal awards are fewer because the number of pensioners on Canadian rates is reduced by 137 and also because fewer short term awards have been made. Amended awards, occasioned by various factors, have also been reduced by slightly over one-half. A large proportion of this class of award is due to the necessity of making original recommendations in the absence of full particulars of service, medical history, etc., etc., but greatly improved service in the receipt of documentation from England has largely eliminated this condition. "No Payment" awards are those in which assessment has been made but where payment is not commenced until confirmation has been received from England. They consist for the most part, of first post-demobilization claims, with a minority of recommendations in respect of pre-war disability pensions. The reduction in numbers, again by approximately one-half, indicates a large falling-off in first applications, but is also due in a measure to the fact that the department is better qualified to discriminate in the merits of such claims, sending to England none that obviously have no grounds for consideration.

The most gratifying item in the report of this section is the reduction in numbers of "Interim Awards" which are those tentative renewals, usually for periods of three months, made necessary by non-receipt of reports of medical review. This condition prevailed to a large degree in United States cases. In the year 1921 it was not unusually the case that six or seven months elapsed between the request for medical report and its receipt. This occasioned two or even three "Interim Awards" based on old medical reports in respect of one pensioner. In 1922 the situation was much better and the present report shows a further large improvement.

Renewal awards at British rates forms the bulk of the work of the section. Here there is a reduction of about 600. This is explained again by longer period of award and the scheme of final awards to which reference is made below.

The section dealt with 8,197 reports of medical examinations held as follows:—

	Canada	United States	Total
Officers	963	521	1,484
Other ranks (at request of H.O.)	2,256	2,404	4,660
Other ranks (Automatic review by Unit)	2,053		2,053
			8,197

An important part of the work of the Awards Section is to assist persons who are not satisfied with the decision, as to pension, by the Ministry of Pensions in the preparation of appeals to the Pensions Appeal Tribunal. Each of such appeals has its own particular feature, and the aim is to help the applicant to present his case in the most favourable light consistent with the facts. In the first eleven months of the year over 400 cases were prepared and submitted.

Under section 4 of the War Pensions Act 1921, the Minister of Pensions has issued regulations governing the scheme of final awards, under which each pensioner in Canada coming forward for review of award subsequent to April 1, has been examined for this purpose and if it has been found possible to make a recommendation as to finality, this has been done. Between April and November, the department has made 775 recommendations for statutory final awards. Where these have been confirmed by the Ministry of Pensions, formal notification to that effect has been sent to the pensioner, who, if he is not satisfied with the award, has the right to appeal within twelve months against the assessment.

This class of appeals has called forth an entirely separate body in England, known as the Assessment Appeals Tribunal, which deals only with cases where final awards have been officially notified and the tribunal has power to confirm, reject or set aside the decision of the ministry. Where the tribunal sets aside a final award it is incumbent upon the ministry to review the case to ascertain whether a further conditional award shall not be instituted.

Early in the present year the work in connection with medical treatment of ex-members of the Imperial forces, which had for some time been transferred to the direction of Pay and Personal Services Division, was retransferred to this division and the personnel placed for supervision with the Awards Section. The department has on the strength of treatment 277 ex-members of the Imperial forces, of which number 84 are in the United States, and 193 are in Canada, and during the period covered by this report, 1,235 ex-members of the Imperial forces have received treatment at the hands of the department, of which number 385 were in the United States, and the remaining 850 in Canada

The "Correspondence Section," which deals in particular with letters concerning pension accounts of those below commissioned rank, and in general with correspondence that cannot properly be allocated to another section, has had an output of approximately 33,500 letters, or an average of 110 letters daily for 305 working days.

In the "Accounts and Officers' Section" a considerable increase in the number of accounts has been noted in the second paragraph of this report. Correspondence and adjustments, both in respect of pension accounts and accounts submitted by the department in connection with medical treatment, have been particularly heavy.

As a summary of the activities of the Imperial Division the following statement is given:—

GENERAL STATEMENT OF DISBURSEMENTS MADE BY THE IMPERIAL PENSION DIVISION FROM JANUARY 1, 1923, TO DECEMBER 31, 1923

	London Account	Ottawa Account
	£ s. d.	$ cts.
Payments of retired pay, pension, etc. to officers and dependents of officers chargeable to the War Office, Air Ministry, Ministry of Pensions, Admiralty, Indian Office, Colonial Office, Royal Irish Constabulary including miscellaneous payments of balances of service pay, etc. authorized by War Office Accounts	281,214 11 9	
Treatment Allowances at Imperial rates to officers	1,145 12 8	
Payments of pension to W.O.'s, N.C.O's, men and dependents chargeable to War Office, Ministry of Pensions and Admiralty Accounts	431,637 9 1	788,517 34
Payment of Chelsea pensions—chargeable to War Office	63,627 6 10	
Payment of Naval pensions—chargeable to Admiralty	21,037 8 11	
Payment of Marriage Allowance—chargeable to War Office	847 1 4	
Payment of Reserve Pay—chargeable to War Office	544 12 9	
Payment of Decoration Awards in respect to members of C.E.F.—chargeable to War Office	1,954 16 10	
Canadian Supplementary Pensions, Officers and dependents—chargeable to Canadian Government		45,241 16
Canadian Supplementary Pensions, W.O's, N.C.O's and men—chargeable to Canadian Government		16,430 54
Payment of difference between proceeds in currency of sterling pension and par rates of exchange to pensioners in receipt of Canadian Supplementary Pensions—chargeable to Canadian Government		10,395 16
Payments to Department in respect of treatment and maintenance, pay and allowances, subsistence and sundries, medical examinations, clothing, and comforts, and transportation—chargeable to Ministry of Pensions		525,829 54
Miscellaneous charges to War Office, Ministry of Pensions and Admiralty		4,123 38
Sub accounts including express charges and postage	49 9 4	170 89
Commission paid during 1923	25,650 7 8	29,006 19
Total	827,708 17 2	1,419,714 20

Important changes which have had their inception during the current year are:—

1. Increase from 3 to 4 per cent on disbursements made for the Ministry of Pensions. This increased revenue is the result of representations made by the deputy minister while in England, when it was demonstrated that the rate of remuneration previously in force was not sufficient to cover the actual cost of administration by the department.

2. The institution of commission in respect of payment of Royal Irish Constabulary pensions. This work which had previously been negligible in volume increased very considerably on the disbandment of that force, when a general scheme of pensions was inaugurated and it became necessary for the department to recover cost of administration.

3. The audit, by the Canadian Auditor General, of accounts rendered to the Ministry of Pensions. This innovation, commencing with the November, 1923, account, will tend to the reduction of a large correspondence in connection with "Observations" on accounts with the Ministry of Pensions.

ORTHOPÆDIC AND SURGICAL APPLIANCES DIVISION

Throughout the past year the work of the Orthopædic and Surgical Appliances Division has closed followed that described in last year's report.

In the organization, however, two important changes occurred: one, the closing down of the Fitting Depot in London, England, and the other that of the Orthopædic Boot Shop in Kingston, Ontario.

The supply of appliances and repairs to Canadian ex-service men resident in Great Britain is now provided for by the Ministry of Pensions under the same regulation by which such appliances and repairs are made to their own eligible cases. In January of the present year the Orthopædic Boot Shop at Kingston was destroyed by fire; this shop was not reopened, instead all current issues are being made from Ottawa, the repairs being taken care of by local contract.

The number of appliances required in the various groups during the year shows no marked change from the figures of last year, although a slight decline on the whole is evident. An exception, however, is noticeable in the artificial arm group, where there is a considerable increase in the number of arms manufactured and issued. This is accounted for by the general distribution of the new Rawhide Dress Arm, the supply of which in 1922 only commenced. In the other groups, such as artificial legs, orthopædic boots, etc., while there appears a decline in the demand for new appliances, the repairs show an increase.

There is no important departure from the designs and standards of last year to report. Willow wood still continues to be the basic material for artificial legs, although light metal as a substitute has been considered and at the present time is being actively tried out. It is hoped that, if successfully adopted *in toto*, or in part, the weight of such appliances may still further be reduced, even although a light artificial leg of the standard wooden type is being made by the department at the present time and is giving good satisfaction. A new design of spinal brace recently developed is worthy of mention, in view of its singular effectiveness from a surgical standpoint. In appliances of this type the use of a light metal, such as Duralumin, is also being experimented with and indeed it is being tried out in connection with all appliances where reduced weight, without sacrificing strength, would be advantageous.

In the Ophthalmic Section the actual manufacture of artificial eyes was undertaken during the year and successful results have been obtained. Thus,

in addition to the manufacture of spectacles and the fitting and distribution of stock artificial eyes, the Ophthalmic Section is now making almost entirely its own stock. Towards the latter part of the year an average production of one hundred eyes per month has been made and, indeed, it is now rarely necessary to refer abnormal cases to specialists in the United States for fitting, as such artificial eyes can be successfully supplied in the department's own shop.

The average costs for 1923 of the different classes of appliances manufactured are as quoted below:—

Legs, $78.28; arms, $54.37; peg legs, $32.48; orthopædic boots, $20.59; minor orthopædic appliances, $7.83; spectacles, $5.05; artificial eyes, $4.59.

A comparison with last year's figures will show that the costs of the present year practically remain the same.

STATEMENT OF APPLIANCES ISSUED

—	Delivered Prior to 1923				Delivered during 1923				Total
	Dominion of Canada	Workmen's Compensation Boards of Canada	London, England	United States of America	Dominion of Canada	Workmen's Compensation Boards of Canada	London, England	United States of America	
Legs (all types)	6,664	42	304	64	538	20	29	39	7,700
Arms (all types	2,215	56	31	7	172	24	14	2	2,521
Orthopædic boots	26,890½	7	326	71	5,227½	2	149	57	32,730
Peg legs	1,323	19	7	.....	59	17	1	.....	1,426
Optical supplies	18,081	14	49	39	1,764	17	83	59	20,106
Minor orthopædic appliances	52,734	306	1,820	205	19,978	171	588	236	76,038
Repairs to legs	23,855	26	655	25	6,152	44	166	63	30,986
Repairs to arms	2,483	12	34	7	470	21	6	1	3,034
Repairs to boots	28,907½	1	122	69	6,128½	1	75	22	35,326
Repairs all other appliances	7,314	.....	196	4	1,421	2	29	16	8,982
Total	170,467	483	3,544	491	41,910	319	1,140	495	218,849

PAY AND PENSION DIVISION

The functions of this division have not changed materially during the past year. There has been a reduction in the volume of the work with a corresponding reduction in personnel and overhead expenditure.

On December 31, 1922, the staff numbered sixty-one and the total monthly pay-roll $5,790.50. On December 31, 1923, the number of staff was forty-one, and the total monthly pay-roll $3,675.

War Service Gratuity, total payments of—				
Jan. 1-Dec. 31, 1923				$ 30,438 44
Number of lump sum payments made to men, 25	Amount	$ 3,781 60		
	Interest	759 27	$ 4,540 87	
Number of payments made to Director of Records, 38				
	Amount	10,655 78		
	Interest	1,962 55	12,618 33	
Number of ordinary payments completed, 31	Amount	2,677 81		
	Interest	1,626 49	4,304 30	
Number of monthly payments, 82	Amount	7,423 71	7,423 71	
Number of payments made to Receiver General, 11	Amount	1,551 23	1,551 23	
		$ 30,438 44	$ 30,438 44	

Chaplain Services

The religious work in the hospitals and visitation of the sick in their homes was maintained by the chaplain services. At present one full-time and eighteen part-time chaplains take care of this work.

The recreation and entertainment of patients in hospital is being carried on through such organizations as the Canadian Red Cross and Y.M.C.A.

Assistance for Return of Ex-Members of the Forces to Relatives in Special Cases

A Parliamentary Committee on Pensions and Soldiers' Re-establishment recommended that in special cases assistance be granted to men who were patients of the department to return to their people overseas.

During the past year authority was granted in the following case:—

P.C. 191, dated February 7, 1923, authorized transportation to No. 192359—Irving Warhurst, wife and children, from Toronto, Ontario, to England.

Pensions Administration Section

This section carries out the administrative work involved in giving effect to the decision of the Board of Pension Commissioners.

Number of fyles dealt with	70,131
British, French, Italian supplementary pensions awarded	329
M.D. Long Service award	138
Number of proceedings drawn on C.E.F	52,675
Number of first payments (new pensions)	1,146
Number of disability pensions reinstated	530
Number of disability gratuities paid	69
Number of disability pensions refused	575
Total amount of payments authorized (new awards; continuances; final payments) approximately	$ 24,000,000

Investigation Section

During the year 1922, investigations as to the condition of widowed mothers and parents were approximately 3,500. Upon these investigations the Board of Pension Commissioners decide whether pension shall be awarded, continued, cancelled, increased or decreased. Other investigations carried on by the section include inquiry as to whether pension is being applied for the proper care of such children as are in receipt of pension. (*a*) New claims received and investigations carried out. (*b*) Cases of widows remarrying and cases of alleged misconduct requiring investigation. (*c*) Cases of children under the care of guardians and financial statements *re* expenditure of children's pensions. (*d*) Reports on the dependency of persons for whom additional pension is claimed. (*e*) Complaints regarding disability pensioners who are not supporting their dependents. (*f*) Cases where it is shown that the death of an ex-member of the forces or pensioner is attributable to service and that the dependents are eligible for pension or insurance.

United States Section

The examination for pension purposes of all ex-Canadians and members of the British, Australian, New Zealand, South African and British West Indies forces, resident in the United States, is arranged by the Director of Medical Services throughout the United States Veterans' Bureau. When a pensioner is ordered to report for an examination by the bureau he is furnished with return transportation and sufficient lodging and meal requests to cover the time of his

absence from home. The charges for these services are later billed against the department. During the year $17,162.13 has been refunded to the United States Veterans' Bureau.

The total expenditure in the United States during the year in respect of hospital allowances, travelling expenses, grants and refunds may be summarized as follows:—

(1) Hospital pay and allowances—	(a) Deducted	$56,566 70
	(b) Issued	175,999 21
	(c) On hand	20,251 69
(2) Funeral grants		1,179 51
(3) Travelling expenses and allowances paid to ex-Canadian patients		355 99
(4) Travelling expenses and allowances paid to ex-Canadians for pension examinations		663 85
(5) Travelling expenses and allowances paid to ex-Imperial patients		1,197 00
(6) Travelling expenses and allowances paid to ex-Imperials for pension examinations		632 22
(7) Refunded to United States Veterans' Bureau for patients and pensioners undergoing examination		17,162 13
Total		$ 274,008 30

PURCHASING AND STORES DIVISION

The grouping of the Purchasing Division with the Stores Division, which took place gradually during the year, has had the effect of reducing the quantity of records to be maintained and also has permitted a reduction in the number of staff employed.

Closer co-operation between the purchasing agents in the units and Head Office Purchasing Division has been effected through, as far as possible, keeping posted as to the local market conditions in each unit as well as making use of trade journal reports. Purchases have been made in the districts where the supplies were to be consumed, providing purchase price was equal to that which could be obtained elsewhere and the quality and delivery of the supplies were satisfactory to the requirements. At the same time full advantage was taken through the grouping of the requirements of the different hospitals which were purchased through Head Office Purchasing Division. In all cases the lowest tender is selected providing the quality and delivery will meet the requirements of the department.

Special efforts have been made during the year to secure all possible cash discounts which has resulted in a saving being effected of over $11,902.30. The total purchases for the year, which include equipment, stores, drugs, fuel and food supplies, amount to $1,109,113.94.

Disposal.—The amount of surplus stores placed on disposal since January 1, 1923, and the total amount to date is as undernoted:—

	Amounts listed	Total amount listed
	$ cts.	$ cts.
Head Office	17,967 12	107,853 54
"A" Unit	12,015 52	400,926 04
"B" Unit	16,544 10	256,166 87
"C" Unit	38,537 76	178,750 02
"D" Unit	130,082 62	734,928 82
"F" Unit	6,693 31	258,121 49
"G" Unit	10,131 95	187,158 82
"H" Unit	6,079 34	145,582 54
"I" Unit	15,656 85	205,024 37
"J" Unit	14,823 90	383,341 93
"K" Unit	2,498 97	96,659 88
"M" Unit, London, Eng	.....	296 86
	271,031 44	2,954,811 18

Transfers have been made to Government departments as follows:—

	Jan. 1, 1923 to Dec. 31, 1923	Total value of goods transferred
Agriculture	6,870 54	38,146 03
Air Board	375 00	159,954 21
Customs and Inland Revenue	.....	1,418 80
Finance	508 18	5,707 18
Health	127 02	2,741 49
Immigration and Colonization	4,056 38	31,855 03
Indian Affairs	23,549 67	313,025 90
Interior	10,461 28	114,187 27
Justice	35,591 12	465,682 33
Mines	6,850 12	131,328 68
National Defence	37,662 23	203,207 03
Naval Service	.....	18,465 64
Public Works	20,621 88	104,729 52
Printing and Stationery	13,116 67	138,427 90
Railways and Canals	22,716 64	81,398 41
Royal Canadian Mounted Police	848 11	17,403 40
Labour	.....	700 00
Marine and Fisheries	179 00	1,550 13
Post Office	.....	216 00
Miscellaneous Departments	.....	2,143 18
	183,533 84	1,832,288 13

Surplus on hand Dec. 31, 1922	$ 63,725 14	
Surplus during year 1922	278,998 81	
Transfers to other departments		$ 183,533 84
Sales		43,007 83
Re-issues		29,647 77
Balance on hand		86,534 51

Stores Division

Commissary Supplies.—All storage conditions were reviewed; commissary supplies were inspected each month by officials in each unit and the quantity of stock in stores maintained to an amount that could be turned over at least once every three months, exception being made in certain cases to supplies which are used in large quantities.

The amount of equipment on hand on Dec. 31, 1923—

	$ cts.	$ cts.
General equipment	1,598,102 04	
Medical equipment	168,206 76	
Dental equipment	22,257 14	
Treatment equipment	22,504 60	
		1,811,070 54

The amount of stores on hand as on Dec. 31, 1923—

General stores	368,212 68	
Surplus stores	86,534 51	
O. & S.A. stores	120,132 68	
Medical stores	24,502 16	
		599,382 03
Stores and equipment on hand		2,410,452 57
Value of surplus stores disposed January 1 to December 31 1923		226,541 67
Value of surplus stores transferred within Department, January 1 to December 31, 1923		29,647 77
Value of supplies and equipment issued for twelve months ending December 31, 1923		1,442,803 50
Total value of stores issued twelve months		1,698,992 94

Equipment Section

A standard table of equipment is maintained for each hospital, which is in keeping with the establishment of the hospital as reflected by the number of patients the hospital is able to accommodate. Where the patient strength is less than the establishment of the hospital, equipment is not replaced.

Equipment or supplies which become surplus to requirements in any unit is listed on sales requisition and is given an appraisal value by three responsible officials. When these sales requisitions, on which is also shown the condition of this surplus, are received at Head Office consideration is first given to the possibility of future requirements in another unit and if the articles listed on the sales requisitions are not required they are offered for transfer to another Government department or disposed of by sale at a price not lower than that set by the Appraisal Board.

Equipment from repossessed loans is handled in a similar manner to equipment surplus to the requirements of the department. Before any equipment is finally disposed of, the requisitions are viewed by the heads of the divisions responsible for the use to which equipment such as listed is put in the various units. Co-operation of the divisions concerned has made it possible for the chief purchasing agent to approve for local transfer or sale the surplus stores referred to.

Stationery and Multigraph Section

A record is maintained by the storekeeper as to the issues of stationery to the various unit stores. Requisitions are received each month from the various unit stores and shipments are made by freight where possible, all unit stores having been advised that their stock should in no case be less than one month's requirements. Where possible printing is done on the multigraph. All complicated or multi-coloured forms are supplied through the Government Printing Bureau.

ENGINEERING DIVISION

Responsible for the maintenance and repairs of hospitals, clinics, and administrative offices, rentals, taxes and water rates, fuel supply, fire protection, mechanical transport, laundries and farms and gardens.

Maintenance and Repairs

The Department of Public Works on request carry out major repairs, the general maintenance being taken care of by the employing of general service staff under this department.

Department of Public Works' appropriation twelve months to December 31, 1923		$ 65,750 00
Expenditure		61,415 13
D.S.C.R. appropriation twelve months to December 31, 1923		50,684 50
Expenditure		49,555 25

Rentals

Premises rented through the Department of Public Works comprise practically all accommodation used by the department.

Rentals in force January 1, 1923—P.W.D. and S.C.R		$ 122,480 30
Rentals in force December 31, 1923—P.W.D	$ 108,377 51	
Rentals in force Dec. 31, 1923—S.C.R	4,945 33	
		113,322 84
Made up of Hospital accommodation	12,009 62	
Clinic, Office, etc., accommodation	101,313 22	

Fuel Supply

Quantity of fuel purchases twelve months to December 31, 1923		35,486 tons
Bonuses paid	$	1,604 35
Penalties imposed		5,618 94
Net cost of fuel in bunkers		242,783 39
Average cost per ton in bunkers		6 80

Fire Protection

Fire protection appliances have been carefully inspected during the past year and the fire drill regulations respecting drills carried out at each institution.

A small number of incipient fires have been reported, but due to the excellent facilities for combating them the loss has been practically nil.

Mechanical Transport

Mechanical transport services show a continued decrease with a corresponding reduction in operating costs.

Number of cars in operation January 1, 1923		30
Number of cars in operation December 31, 1923		23
Average number of hours per day vehicle		5·8
Against 5·25 for the year 1922.		
Cost of gas, oil and grease	$	6,902 42
Drivers' wages		27,404 49
Cost of repairs, etc		6,735 14
Cost of new tires		1,899 19
Total	$	42,941 24
Taxi hire		9,651 99
Trucking		2,964 59
Gasolene allowances		6,120 00
Total cost	$	61,677 82

Laundry Operations

Laundries are being operated at the following institutions: Ste. Anne's Hospital, Christie Street Hospital and Westminster Hospital. Two laundries have been closed during the past year—one at Jordan Memorial Sanatorium and the other at Strathcona Hospital.

Number of pieces laundered for twelve months ending December 31, 1923	1,358,212
Number of pieces last year	1,796,013
Average cost per piece this year	2·82c.
Average cost per piece last year	2·9c
Number of pieces of laundry contracted for with outside laundries	702,439
Number of pieces last year	724,799
Average cost per piece this year	4·47c.
Average cost per piece last year	4·9c.

Farm and Garden Operations

With the closing of Jordan Memorial Sanatorium by the department the operation of the farm in connection with this sanatorium has ceased during the year. Extensive garden operations are maintained at the psychopathic hospitals of Ste. Anne's and Westminster with marked success, not only as to the quantity of produce grown, but in the benefits derived in the treatment of patients. During the past year provision has been made for the raising of chickens at these two institutions, and suitable buildings for the housing of same have been erected.

RECORDS AND CENTRAL REGISTRY BRANCH

During the year 1923, the most important feature in the work of the Records and Central Registry was its amalgamation into the one division. While certain special work such as the replacing of folders for files and the reviewing of orthopædic and surgical appliances issued to ex-Imperials has been completed and some additional work in connection with the Federal Appeal Board, the sending out of life certificates to pensioners and the completion of neuropsychiatric records for the Director of Medical Services has been undertaken, the regular work of the division has continued without much change.

The volume of work in the Central Registry has increased slightly over last year. The total number of files issued was 636,220, or an average of 12,235 per week; recharged or passed from branch to branch, 289,735, or 5,571 per week. The total issued and recharged was 17,806 per week, as against 17,185 in 1922. 243,634 folders have been created replacing old ones, and 9,776 new files, of which 5,388 were for Imperial pensioners. 59,544 changes of address have been registered for pensioners. 28,007 of these were due to instructions to Head Office direct from pensioners and 31,537 through advice from the unit offices. Owing to the movement of pensioners, 8,316 files have been transferred from one unit to another.

The incoming correspondence totalled 773,717 pieces, or an average of 14,879 pieces per week. The outgoing correspondence was 1,174,119 pieces, or an average of 22,579 per week. In addition to this, 7,250 telegrams were received, or an average of 139 per week, and 2,811 despatched, or an average of 54 per week. During 1922 the average amount of mail received and sent out was 37,229 pieces per week, while in 1923 the total was 37,458 pieces per week. The large rush of applicants for insurance during July and August, 1923, was partly responsible for this increase.

There has been a reduction in the staff of 41, which now numbers 135 persons.

Daily Order Section

Treatment, Training and Vetcraft Records.—Daily Orders continue to be used by all units to authorize pay and allowances and to record effective changes for men taking treatment, training and sheltered employment. The Daily Order Section maintains individual records of all former members of the forces who at any time have received treatment in hospitals under the jurisdiction of the department, or undergone a course of retraining or have been placed under P.C. 2328.

Statistical Section

A close check has been maintained on all reports and returns received from the various offices of the department with very satisfactory results. The Statistical Section compiles from these returns and from Daily Orders the following statistics: Treatment, curative training, P.C. 2328 cases, vocational training, employment, relief, disabled men placed in the Civil Service, accommodation of patients and distribution of beds in hospitals, patient days, pension medical examinations and clinical treatments.

Federal Appeal Board Records.—All notifications of appeals to be heard and judgments given by the Federal Appeal Board are being carefully recorded.

Orthopædic and Surgical Appliances and General Section

All units render bi-monthly returns to Head Office covering all orthopædic and surgical appliances manufactured, purchased and repaired, showing the nature of the appliances and to whom issued. From these returns the Orthopædic and Surgical Appliances Section keeps an individual record of all appliances issued, from which a classified statistical statement is compiled.

Pension Section

The Pension Section maintains an individual record of all awards and adjustments affecting C.E.F. Long Service, Supplementary pensions of our allies, pensions in respect of persons injured or killed while flying in the public service, and refusals affecting C.E.F. pensions.

From the pensioner's record card, Hollerith statistical cards are punched, from which the annual statistics published by the Board of Pension Commissioners for Canada are compiled. Approximately 58,000 files have been handled by this section in the past twelve months.

Record of Deaths.—A careful check was made of all deaths of disability pensioners. From this record, the Treatment Branch was able to secure important information relative to the deaths of pensioners since January 1, 1920, for the purpose of review due to amendments to the Pensions Act.

Life Certificates.—Pursuant to an amendment of the Pension Act Declaration Forms for completion as Life Certificates are being sent to various classes of pensioners. About twenty-four thousand (24,000) will be forwarded annually.

Transportation Section

The Transportation Section is responsible for the payment and audit of all accounts covering passenger transportation, and freight and express charges; the billing of accounts to their respective Governments for travelling of ex-members of the Allied forces; and the co-ordination of patient transfers between units when escorts are required.

PASSENGER TRANSPORTATION

Approximately 3,000 warrants were used monthly and accounts have been paid, involving an expenditure of $207,130.59, distributed as follows:—

Canadian National Railways	$ 132,222 01
Canadian Pacific Railway	58,061 79
Sundry railways	16,846 79
Total	$ 207,130 59

The distribution of this expenditure by provinces and services is shown in the accompanying table.

STATEMENT SHOWING DISTRIBUTION OF EXPENDITURE ON TRANSPORTATION FROM JANUARY 1, 1923–DECEMBER 31, 1923

Service	Total expenditure	"A" Quebec	"B" Nova Scotia and Prince Edward Island	"C" Eastern Ontario	"D" Central Ontario	"F" Western Ontario	"G" Thunder Bay and Manitoba	"H" Saskatchewan	"I" Alberta	"J" British Columbia	"K" New Brunswick	"U" United States	H.O. Ottawa (Dept.)	Accounts Receivable
	$ cts.	$ cts.	$ cts.	$ cts.	cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1. Officers and staff performing administrative duties or travelling in connection therewith, and Accounts and Audit Branch Staff	21,315 54	1,565 29	1,030 50	990 96	3,066 39	782 70	1,010 12	1,182 16	1,692 94	1,046 29	2,205 62	.....	6,742 57	.....
2. Medical officers, nurses and personnel	12,976 19	1,866 04	747 23	789 37	1,873 75	715 93	446 20	721 60	868 18	811 56	541 85	.....	3,594 48	.....
3. Men undergoing treatment or called in for treatment or orthopædic repairs	64,386 43	5,971 23	6,896 70	3,872 12	15,102 55	5,201 67	6,199 49	4,793 68	5,415 26	6,890 66	3,378 41	315 82	348 84	.....
4. Warrants issued to individuals proceeding on escort duty under instructions of the Department other than escorts to deceased patients	7,877 67	1,578 24	724 29	390 20	1,366 74	705 01	780 58	416 03	869 49	364 21	644 35	38 53	.....	.....
5. Transportation of deceased patients when shipped for burial and transportation of any person accompanying the body	906 66	236 43	13 15	23 94	252 92	.....	19 68	27 54	21 30	239 45	72 25	.....	.....	.....
6. Travelling Medical Board	3,158 84	184 98	347 61	2 04	196 27	440 16	329 91	369 84	208 98	994 96	84 09	.....	.....	.....
7. Pensioners called in for examination	61,389 22	1,891 26	6,060 39	4,321 35	11,116 41	2,579 75	9,129 88	9,355 83	7,991 07	5,822 86	3,120 42	.....	.....	.....
8. Vetcraft Staff travelling	2,809 09	.....	214 28	18 12	299 08	3 54	12 72	.....	.....	.....	.....	.....	2,261 35	.....
9. Travelling—Blind ex-members of the forces	3,293 17	6 15	.....	.....	1,912 57	.....	124 00	381 75	324 06	524 94	19 70	.....	.....	.....
10. Men taking vocational training or travelling in connection therewith	674 95	15 84	123 04	78 48	243 61	14 79	63 84	53 41	29 20	17 93	34 81	.....	.....	.....
11. Transportation issued in lieu of unemployment relief	701 55	.....	34 82	23 69	500 90	.....	76 33	13 50	.....	.....	.....	.....	52 31	.....
12. Staff O. and S.A. Branch	704 33	26 55	10 87	64 52	341 87	.....	59 73	.....	31 85	33 40	35 12	.....	100 42	.....
13. Transportation Staff of the Imperial Pension Division	99 18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	99 18	.....
14. Transportation issued in connection with The Royal Commission	6,346 02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,346 02	.....
15. Transportation Staff in connection with soldiers' comforts	390 97	.....	.....	.....	14 53	.....	.....	.....	.....	.....	.....	.....	376 44	.....
16. Travelling—Members of the Federal Appeal Board	113 66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	113 66	.....
17. Accounts receivable	19,987 12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19,987 12
	207,130 59	13,342 01	16,202 88	10,574 79	36,287 59	10,443 55	18,252 48	17,315 34	17,452 33	16,746 26	10,136 62	354 35	20,035 27	19,987 12

The undermentioned amounts have been expended for transportation of soldiers and pensioners of various Allied Governments and other Government departments. These charges have now been recovered or are being collected from the following:—

Government of Great Britain (Treatment)	$ 4,061 99
Government of Great Britain (Pensions)	12,148 97
Government of Great Britain (Investigations)	184 52
British Dominions	937 40
United States Government	2,003 51
Canadian Government departments	75 08
Miscellaneous accounts	575 65
	$ 19,987 12

The following summary reflects the total expenditure for passenger transportation as from April, 1919, to December, 1923.

From April 1919, to December, 1920	732,344 30
From December 1920 to December, 1921	409,666 63
From December 1921 to December, 1922	221,653 83
From December 1922 to December, 1923	207,130 59

Freight and Express Warrants

During the year 4,800 freight and express warrants were issued. The total charges on freight and express warrants paid during the past year were $46,-432.92, distributed as follows:—

Canadian National Railways	$ 11,952 10
Canadian Pacific Railway	14,990 32
Canadian National Express	12,382 50
Dominion Express	6,270 95
Sundry Railways and Express Companies	837 05
Total	$ 46,432 92

Each item on these freight and express warrants was classified and the rates checked according to the official freight and express tariffs.

Stenographic and Copy Work Section

The section is divided as follows:—(*a*) Stenography and Dictaphone Subsection, (*b*) Medical Documents Precis Subsection, (*c*) Copy Work Subsection, and (*d*) Stencilling and Mimeograph Subsection.

Shortly subsequent to the purchase of dictaphone equipment for the use of the Administration Branch, it was decided to pool all stenographers and dictaphone operators, with the exception of secretaries to the heads of divisions. This has resulted in a very considerable reduction in staff; increasing efficiency among the dictators and uniformity in appearance of correspondence typed. It is interesting to note that during busy periods, dictaphone operators have been able to transcribe and type in excess of two thousand typed lines of work per day.

During the year, 2,805,000 lines of typewritten work have been produced; equivalent to 187,000 letters on an average length of fifteen lines; précis were made from medical documents of 6,133 men; 23,685 pages of work were copied; 46,316 copies being made; 1,890 stencils were struck off; 302,869 copies were made by the mimeograph equipment.

REPORT OF ACCOUNTS AND AUDIT BRANCH, 1923-24

Financial statements, covering the year's operations, which are self-explanatory, follow herewith.

No changes in procedure or practice of any moment have taken place during the year, but a large reduction in outstanding accounts to be collected is noticeable. Accounts owed by other departments of the Government cannot strictly be called an asset to this department, because it simply implies a book transfer, this department having purchased goods which have become surplus to requirements.

A notable reduction in personnel of this Branch in particular has resulted in a decrease in cost of operation, in so far as the handling of accounts is concerned. In the year 1921 the total staff was 461, costing $557,578; in 1922 the total staff was 370, costing $460,047 and in 1923 the total staff was 306, costing $394,832. This substantial decrease in staff has been accomplished without disturbing the administration of the various units, but if the work remains at its present pressure, no further reduction would be safe or wise. It may be said, therefore, as far as this branch is concerned that the period of normalcy has been entered. No more drastic changes are to be foreseen unless certain activities of the department are curtailed or eliminated.

Regarding the accounting work connected with pensions, it is to be noted that total payments and the number of pensioners have remained practically constant. The work in this portion of the branch has been harmonious and uneventful, with the exception of a slight reorganization which took place at the beginning of the fiscal year, reducing the number of blocks from six to three and arranging the flow of work so that congestion at month-end periods was largely eliminated. The cost of administration of this portion of the Accounts and Audit Branch has also been slightly lowered owing to the reduction in staff.

The statements following cover the accounts of the department both for the fiscal year ending March 31, 1923, and the calendar year ending December 31, 1923. With these also have been combined the pension accounts and expenditures since the 1st April, 1916, these latter being under the control of the Board of Pension Commissioners up to June 30, 1921. The accounts proper of the pensions were not incorporated with those of the department until the 1st April, 1922.

The balance sheet in addition to reflecting the present condition of the department, shows the disposition of certain property and the amount of funds held in trust with the Department of Finance on behalf of various ex-members of the Expeditionary Forces. The actual yearly expenses and costs of each item of service, irrespective of the cash disbursements and appropriation expenditures, will be found on the operating expenses statement and the cost of pensions.

The attached statements give in clear and concise form the financial activities of the department.

CONSOLIDATED BALANCE SHEET DECEMBER 31, 1923

EXHIBIT 1

CURRENT ASSETS—			
Cash advances, per Schedule A		$ 115,419 44	
Stores and disposal stores, per Schedule A		616,459 89	
Accounts receivable, as per Schedule B		951,790 57	
Total Current Assets			$ 1,683,669 90
LOANS AND FUNDS—			
Vocational Loans, per Schedule C		$ 180,076 02	
City of Edmonton Loan (*re* Strathcona Hospital		60,000 00	
University of Alberta Loan (*re* Strathcona Hospital)		100,000 00	
War Service Gratuity Fund	See (Exhibit 8)	180,916 35	
Soldiers' Insurance Fund	See (Exhibit 8)	1,696,656 80	
Pensions Administration Fund	See (Exhibit 8)	151,723 11	
Repatriation Loans		21,715 09	
Total loans and funds			2,391,087 37
COST OF PROPERTY AND PLANT—			
Lands	Per Schedule D	254,681 08	
Buildings and fixtures	Per Schedule D	6,893,756 11	
Equipment	Per Schedule D	1,834,220 35	
Total cost of property			8,982,657 54
Government Department Transfers P.C. 3017 of 1920 per Schedule E			1,832,288 13
Balance being operating expense Soldiers' Civil Re-establishment, per Exhibit 2		$ 127,192,495 50	
Cost of Pensions, per Exhibit 3		184,152,251 86	
			311,344,747 36
			$326,234,450 30

CURRENT LIABILITIES—			
War Service Gratuity Trust Account		$ 180,916 35	
Pension Administration Trust Account		151,723 11	
Soldiers' Insurance Trust Account		1,696,656 80	
Department of Finance, *re* City of Edmonton Loan		160,000 00	
Department of Militia and Defence		402,301 28	
Total current liabilities			$ 2,591,597 54
APPROPRIATION EXPENDITURES—			
Soldiers' Civil Re-establishment per Schedule F		$139,490,600 90	
Pensions, per Schedule G		184,152,251 86	
			323,642,852 76
			$326,234,450 30

OPERATING EXPENSES FROM JULY 1915 TO DECEMBER 31, 1923

EXHIBIT 2

Details	Grand Total	From July 1915, to March 31, 1920	Fiscal Year 1920-21	Fiscal Year 1921-22	Fiscal Year 1922-23	Nine months ending Dec. 31, 1923
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
General administration	15,190,882 65	5,953,867 83	3,049,349 50	2,751,253 06	2,078,874 56	1,357,537 70
Imperial pension Office	232,176 94	.....	.....	.....	131,059 49	101,117 45
Care of patients and medical examination of pensioners	41,364,224 74	12,927,588 74	9,334,170 40	7,621,152 53	7,067,863 59	4,413,449 48
Orthopædic, ophthalmic and surgical appliances	2,570,388 87	1,038,832 40	513,373 95	444,929 80	328,750 69	244,502 03
Vocational training and loans expense	11,836,851 55	7,955,896 74	3,529,169 57	281,843 60	64,192 05	5,749 59
Unemployment relief	3,756,972 59	.....	842,403 02	1,764,019 85	1,024,414 95	126,134 77
Information and employment	1,246,211 76	752,728 02	219,713 81	186,854 45	83,214 53	3,700 95
Sheltered employment	316,352 81	.....	.....	.....	125,345 54	191,007 27
Pay and allowances—						
Treatment	18,929,680 37	6,514,195 21	4,266,258 24	3,736,674 03	2,817,495 85	1,595,057 04
Training	31,303,625 40	18,683,976 85	10,751,645 53	1,403,928 55	374,245 21	89,829 26
War and provisional bonus	3,582,622 71	1,329,654 17	1,061,932 27	625,309 26	334,803 12	230,923 89
Federal Appeal Board	44,041 44	.....	.....	.....	.....	44,041 44
Other miscellaneous	847,341 26	.....	342,736 63	293,747 23	188,341 58	22,515 82
Gross operating expense	131,221,373 09	55,156,739 96	33,910,752 92	19,109,712 36	14,618,601 16	8,425,566 69
Operating Revenue	4,028,877 59	.....	250,181 25	1,494,774 78	1,318,066 30	965,855 26
Net operating expense	127,192,495 50	55,156,739 96	33,660,571 67	17,614,937 58	13,300,534 86	7,459,711 43

COST OF PENSIONS APRIL 1, 1916 TO DECEMBER 31, 1923

EXHIBIT 3

Details	Grand total	April, 1916, to March, 1920	Fiscal Year 1920-21	Fiscal Year 1921-22	Fiscal Year 1922-23	Nine months ending Dec. 31, 1923
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
European war	175,581,264 99	49,509,899 61	36,325,142 25	33,743,707 54	31,911,867 40	24,090,648 19
Northwest Rebellion	209,095 08	78,289 43	23,747 41	34,121 83	41,575 39	31,361 02
Fenian Raid	6,841 88	4,443 00	514 25	731 63	632 50	520 50
Militia Long Service	2,467,075 79	546,616 10	406,907 45	484,946 30	559,577 30	469,028 64
Civil Government Flying	992 22	.....	.....	.....	.....	992 22
Pensions' Administration	5,886,981 90	4,376,481 53	*1,520,301 56	†*9,801 19*	.....	.....
Total cost of pensions	184,152,251 86	54,515,729 67	38,276,612 92	34,253,706 11	32,513,652 59	24,592,550 57

NOTE.—*From April 1, 1921, the administration expenses of the Board of Pension Commissioners are included with Soldiers' Civil Re-establishment Expenditures.

†Refunds of previous years' expenditures (credit).

EXHIBIT 4

STATEMENT OF EXPENDITURES AND REVENUE FISCAL YEAR ENDING MARCH 31, 1923

Operating Expenditures—		
General administration as per Schedule H		$ 2,078,874 56
Imperial Pension Office		131,059 49
Treatment administration as per Schedule I		437,633 23
Care of patients and medical examination of pensioners as per Schedule J		6,958,981 05
Treatment pay and allowances as per Schedule K		2,817,495 85
Vocational and training expense as per Schedule L		147,406 58
Training pay and allowances as per Schedule M		374,245 21
Unemployment relief as per Schedule N		1,024,414 95
Sheltered employment as per Schedule O		125,345 54
Other miscellaneous expenses as per Schedule P		188,341 58
Provisional bonus—all services		334,803 12
Gross operating expenditures		$14,618,601 16
Operating revenue as per Schedule Q		1,318,066 30
Net operating expenditures		$13,300,534 86
Net disbursements on Soldiers' Civil Re-establishment and Pensions administration as per Exhibit 7		12,465,978 64
Net Decrease in capital accounts as per Schedule R		807,830 61
Liabilities incurred but not paid		26,725 61
		$13,300,534 86

EXHIBIT 5

STATEMENT OF EXPENDITURES AND REVENUE, NINE MONTHS ENDING DECEMBER 31, 1923

Operating Expenditures—			
General administration		$ 1,357,537 70	
Imperial Pension Office		101,117 45	
Treatment administration		301,758 13	
Care of patients and medical examination of pensioners		4,356,193 38	
Treatment pay and allowances		1,595,057 04	
Vocational expenses		9,450 54	
Training pay and allowances		89,829 26	
Unemployment relief		126,134 77	
Sheltered employment		191,007 27	
Federal appeal Board		44,041 44	
Miscellaneous expenses		22,515 82	
Provisional bonus		230,923 89	
Gross operating expenditures		$ 8,425,566 69	
Operating Revenue		965,855 26	
Net operating expenditures			$ 7,459,711 43
Net disbursements on Soldiers' Civil Re-establishment and Pensions administration, per Exhibit 8			$ 7,345,166 63
Net decrease in capital accounts			152,542 23
Liabilities incurred but not paid			487 57
			$ 7,498,196 43
Decrease in Liabilities—Board of Pension Commissioners			38,485 00
			$ 7,459,711 43
Pension Expenditures—			
European War pensions	$23,583,044 38		
Gratuities	219,293 00		
Final payments by agreement	203,503 63		
New Zealand pensions (recoverable)	8,255 37		
Burial Grants	13,261 47		
Supplementary Imperial pensions	44,699 66		
Supplementary French pensions	22,870 47		
Supplementary Italian pensions	3,382 29		
Decoration awards	3,035 28		
		$24,101,345 55	
Less recoveries for New Zealand pensions, previous years		10,697 36	
			$24,090,648 19
Northwest Rebellion, 1885 and General			31,361 02
Militia Long Service, Pension Act 1901			469,028 64
Fenian Raid, 1866 pensions			520 50
Civil Government flying			992 22
Net pensions expenditures			$24,592,550 57
Net disbursements on pensions, Per Exhibit 8			$24,592,550 57

EXHIBIT 6

STATEMENT OF EXPENDITURES AND REVENUE, TWELVE MONTHS ENDING DECEMBER 31, 1923

Operating Expenses—			
General administration		$ 1,792,215 91	
Imperial Pension Office		151,223 33	
Treatment administration		407,144 19	
Care of patients		6,202,926 04	
Treatment pay and allowances		2,235,333 37	
Vocational expense		3,668 66	
Training pay and allowances		201,509 32	
Unemployment relief		471,353 69	
Miscellaneous expense		78,569 50	
Provisional bonus		297,003 84	
Sheltered employment		276,655 61	
Federal Appeal Board		44,041 44	
Gross operating expenditure			$12,161,644 90
Deduct—Operating Revenue			1,486,157 13
Net operating expenditure			$10,675,487 77
Net disbursements on Soldiers' Civil Re-establishment and pension administration, as per Exhibit 9		$10,570,168 19	
Net decrease in capital accounts		248,311 69	
Accounts incurred but not paid		1,089 47	
			$10,819,569 35
Decrease in liabilities—accrued Transportation and Board of Pension Commissioners			144,081 58
			$10,675,487 77
Pensions Expenditure—			
European War pensions		$31,335,145 41	
Gratuities		297,461 41	
Final payments by agreement		306,847 70	
New Zealand pensions (recoverable)		10,782 81	
Burial grants		16,393 07	
Supplementary Imperial pensions		61,475 77	
Supplementary French pensions		30,852 90	
Supplementary Italian pensions		3,745 88	
Decoration awards		3,035 28	
		$32,065,740 23	
Less recoveries—New Zealand pensions		10,697 36	
			$32,055,042 87
Fenian Raid, 1866 pensions			633 00
Northwest Rebellion, 1885, pensions			42,176 75
Long Service pensions—Militia			620,092 46
Civil Government flying			992 22
Net Distribution on Pensions as per Exhibit 9			$32,718,937 30

EXHIBIT 7

STATEMENT OF APPROPRIATION ACCOUNTS FISCAL YEAR ENDING MARCH 31, 1923

Soldiers' Civil Re-establishment—			
Capital			$ 52,076 18
Care of patients			2,922,547 41
Vocational expense			35,469 75
Salaries			5,089,841 34
Pay and allowances—			
Treatment	$ 2,829,106 67		
Training	375,164 68		
			3,204,271 35
Vocational loans			19,424 58
Interest on war service gratuity			12,981 55
Unemployment relief			1,038,163 35
Operating expenditures			495,960 26
Employers liability compensation			15,675 50
Publicity	6,200 00		
Medical Appeal Board	3,133 67		
After-care tuberculosis	47,087 99		
Transportation of blind	49 72		
Burial expenses of destitute	9,271 59		
Repatriation	20,540 63		
Relief in British Isles	2,088 62		88,372 22
Total Soldiers' Civil Re-establishment			$12,974,783 49

EXHIBIT 7—*Concluded*

STATEMENT OF APPROPRIATION ACCOUNTS, FISCAL YEAR ENDING MARCH 31, 1923—*Concluded*

Civil Government—			
Salaries and contingencies	27,347 82		
Minister's Salary	10,000 00		
Total Civil Government		37,347 82	
Provisional bonus		352,493 58	
Miscellaneous gratuity		510 00	
		$13,365,134 89	
Deduct—refunds to casual revenue		899,156 25	
Net disbursements on Soldiers' Civil Re-establishment and Pensions administration		12,465,978 64	
Pensions—			
European war and active militia	32,025,194,79		
Northwest Rebellion, 1885, and general	41,755 39		
Fenian Raid, 1866	632 50		
Militia Pension Act, 1901	560,639 29		
Total Pensions		$32,628,221 97	
Deduct—refunds to casual revenue		114,569 38	
			$32,513,652 59
War Service Gratuity Fund (Trust Fund No. 1)—			
Balance April 1, 1922	$ 200,717 04		
Receipts from Department Militia and Defence	5,569 24		
Interest on credit balances (S.C.R. Vote 294)	12,981 55		
		$ 219,267 83	
Payments to Soldiers' Civil Re-establishment patients on Discharge		23,564 57	
Balance March 31, 1923			$ 195,703 26
Pensions Administration Fund (Trust Fund No. 3)—			
Pension cheques received and deposited		$ 266,548 53	
Authorized disbursements		141,501 03	
Balance March 31, 1923		125,047 50	
Returned Soldiers' Insurance Fund—			
Balance April 1, 1922	$ 384,981 54		
Ordinary income	906,795 97		
Interest received from Department of Finance	19,944 77		
		1,311,722 28	
Ordinary expenditure		342,012 75	
Balance March 31, 1923			$ 969,709 53

EXHIBIT 8

STATEMENT OF APPROPRIATION ACCOUNTS, NINE MONTHS ENDING DECEMBER 31, 1923

Soldiers' Civil Re-establishment—		
Capital	$ 4,700 83	
Care of patients	1,857,642 18	
Vocational expense	5,779 91	
Salaries	3,242,021 04	
Pay and allowances	1,684,577 48	
Vocational loans	31,360 38	
Interest on funds	10,727 89	
Unemployment relief	126,252 88	
Operating expenditures	492,047 17	
Employers' liability compensation	13,429 92	
Repatriation from Great Britain	17,124 64	
Sheltered employment	194,982 13	
Transportation of blind	2,508 61	
Burial of Destitute	9,700 00	
Provincial Employment services	3,700 95	
Special publicity	652 95	
Medical Appeal Board	4,095 27	
Federal Appeal Board	40,169 08	
		$ 7,741,473 31

EXHIBIT 8—*Concluded*

STATEMENT OF APPROPRIATION ACCOUNTS, NINE MONTHS ENDING DECEMBER 31, 1923—*Concluded*

Civil Government—			
Salaries and contingencies	$ 20,473 00		
Minister's salary	7,499 97		
		27,972 97	
Superannuation Fund No. 4		1,120 00	
Provisional bonus		230,923 89	
Miscellaneous gratuity		1,133 32	
		$ 8,002,623 49	
Deduct—Refunds to casual revenue		657,456 86	
Net Disbursements on Soldiers' Civil Re-establishment and Pensions Administration			$ 7,345,166 63
Pensions—			
European War and active militia	$24,159,489 30		
Northwest Rebellion, 1885, and General	31,584 91		
Fenian Raid, 1866	520 50		
Militia Pensions Act, 1901	469,600 18		
Civil Government flying	992 22		
		$24,662,187 11	
Deduct—Refunds to Casual Revenue		69,636 54	
			$24,592,550 57
War Service Gratuity Fund—			
Balance April 1, 1923	$ 195,703 26		
Receipts from Militia and Defence	6,364 46		
Interest on credit balances	5,109 71		
		$ 207,177 43	
Payments to Soldiers' Civil Re-establishment patients on discharge		26,261 08	
			$ 180,916 35
Returned Soldiers' Insurance Fund—			
Balance April 1, 1923	$ 969,709 53		
Ordinary income	1,081,938 03		
		$ 2,051,647 56	
Ordinary expenditure		354,990 76	
			$ 1,696,656 80
Pensions Administration Fund—			
Balance April 1, 1923	$ 125,047 50		
Receipts from Canadian pensions Division	221,719 88		
Interest on credit balances	5,618 18		
		$ 352,385 56	
Payments to or in respect of pensioners being beneficiaries of fund		200,662 45	
			$ 151,723 11

EXHIBIT 9

STATEMENT OF APPROPRIATION ACCOUNTS, TWELVE MONTHS ENDING DECEMBER 31, 1923

Soldiers' Civil Re-establishment—			
Capital			10,281 56
Care of patients			2,595,720 95
Vocational expense			6,374 10
Salaries			4,491,141 58
Pay and allowances—			
Treatment	$ 2,234,154 20		
Training	201,464 07		
			2,435,618 27
Vocational loans			32,381 83
Interest on funds			15,887 74
Unemployment relief			469,511 07
Operating expense			501,819 63
Employers' liability compensation			15,381 79
Sheltered employment	237,619 09		
Transportation of blind	2,558 33		
Burial expenses of destitute	14,821 59		
Provincial employment services	3,700 95		
			258,699 96
Special publicity			6,852 95
Medical Appeal Board			7,228 94
Federal Appeal Board			40,169 08
Repatriation	34,154 33		
Relief of destitute Canadians in British Isles	1,908 55		36,062 88
Total Soldiers' Civil Re-establishment			$10,923,132 33

EXHIBIT 9—*Concluded*

STATEMENT OF APPROPRIATION ACCOUNTS ,TWELVE MONTHS ENDING DMCEMBER 31, 1923—*Concluded*

Civil Government—			
Salaries and contingencies	$ 27,238 00		
Minister's Salary	10,000 00		
Total Civil Government			37,238 00
Superannuation Fund No. 4			1,120 00
Miscellaneous gratuities			1,503 32
Provisional bonus			314,495 22
Total disbursements			$11,277,488 87
Deduct—Refunds to Casual Revenue			707,320 68
Net disbursements on Soldiers' Civil Re-establishment and Pensions administration			$10,570,168 19
Pensions—			
European War and Active Militia	$32,150,638 52		
Northwest Rebellion, 1885 and general	42,460 64		
Fenian Raid, 1866	633 00		
Militia Pensions Act, 1901	621,032 15		
Civil Government flying	992 22		
Total Pensions		$32,815,756 53	
Deduct—Refunds to casual revenue		96,819 23	
Net Disbursements on Pensions			$32,718,937 30
War Service Gratuity Fund—			
Balance January 1, 1923	$ 193,646 14		
Receipts from Militia and Defence	8,104 46		
Interest on credit balances	10,269 56		
		212,020 16	
Payments to Soldiers' Civil Re-establishment patients on discharge		31,103 81	
Balance December 31, 1923			$ 180,916 35
Returned Soldiers' Insurance Fund—			
Balance January 1, 1923	$ 780,108 51		
Ordinary income	1,351,105 47		
Interest received from Department of Finance	19,944 77		
		$ 2,151,158 75	
Ordinary expenditures		454,501 95	
Balance December 31, 1923			$ 1,696,656 80
Pensions Administration Fund—			
Balance January 1, 1923	$ 114,547 01		
Receipts from Canadian pensions	299,500 09		
Interest on credit balances	5,618 18		
		419,665 28	
Payments to or in respect of pensioners being beneficiaries of fund		267,942 17	
Balance December 31, 1923			$ 151,723 11

SCHEDULE A

STATEMENT SHOWING DISTRIBUTION OF CURRENT ASSETS BY PROVINCES AS AT DECEMBER 31, 1923

Unit	Province	Total	Cash Advances	Stores and Disposal Stores
		$ cts.	$ cts.	$ cts.
"A"	Quebec	140,613 37	1,446 52	139,166 85
"B"	Nova Scotia and Prince Edward Island	27,223 15	1,375 00	25,848 15
"C"	Eastern Ontario	87,491 32	65,559 34	21,931 98
"D"	Central Ontario	314,493 15	30,561 76	283,931 39
"F"	Western Ontario	55,971 09	40 00	55,931 09
"G"	Manitoba	16,578 18	1,698 16	14,880 02
"H"	Saskatchewan	9,585 55	1,595 00	7,990 55
"I"	Alberta	27,484 10	8,217 69	19,266 41
"J"	British Columbia	26,334 09	4,200 97	22,133 12
"K"	New Brunswick	26,105 33	725 00	25,380 33
	Total	731,879 33	115,419 44	616,459 89

SCHEDULE B

ACCOUNTS RECEIVABLE AS AT DECEMBER 31, 1923

Great Britain	$ 372,299 45
British Dominions	66,262 98
United States of America and Other Allied Governments	11,992 29
Canadian Government Departments	111,419 06
Other miscellaneous accounts	389,816 79
Total	$ 951,790 57

SCHEDULE C

STATEMENT SHOWING DISTRIBUTION OF VOCATIONAL LOANS BY PROVINCES AS A DECEMBER 31, 1923

Quebec	$ 8,569 56
Nova Scotia and Prince Edward Island	8,275 60
Eastern Ontario	12,836 80
Central Ontario	67,632 05
Western Ontario	
Manitoba	15,802 66
Saskatchewan	13,124 35
Alberta	20,969 66
British Columbia	23,926 01
New Brunswick	8,939 33
Total	$ 180,076 02

SCHEDULE D

STATEMENT SHOWING DISTRIBUTION OF COST OF PROPERTY BY PROVINCES AS AT DECEMBER 31, 1923

Unit	Province	Total	Lands	Buildings, Building Grants and Fixtures	Equipment
		$ cts.	$ cts.	$ cts.	$ cts.
"A"	Quebec	1,198,339 79	.....	846,664 02	351,675 77
"B"	Nova Scotia and Prince Edward Island	1,338,310 28	.....	1,242,178 91	96,131 37
"C"	Eastern Ontario	1,099,947 58	.....	693,799 92	406,147 66
"D"	Central Ontario	2,190,862 04	231,000 00	1,584,458 16	375,403 88
"F"	Western Ontario	711,767 22	.....	514,087 96	197,679 26
"G"	Manitoba	516,087 35	.....	466,151 07	49,936 28
"H"	Saskatchewan	526,624 88	.....	507,692 05	18,932 83
"I"	Alberta	569,362 58	23,681 08	412,810 44	132,871 06
"J"	British Columbia	528,305 58	.....	411,549 92	116,755 66
"K"	New Brunswick	291,089 93	.....	213,707 06	77,382 87
"M"	England	11,960 31	.....	656 60	11,303 71
	Total	8,982,657 54	254,681 08	6,893,756 11	1,834,220 35

SCHEDULE E

VALUE OF SURPLUS STORES AND EQUIPMENT TRANSFERRED TO OTHER GOVERNMENT DEPARTMENTS UNDER AUTHORITY OF ORDER IN COUNCIL P.C. 3017 OF 1920, DECEMBER 1920 TO DECEMBER 31, 1923

Department	Total	Fiscal Year 1920-21	Fiscal Year 1921-22	Fiscal Year 1922-23	Nine Months Ending December 1923
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Agriculture	38,146 03	1,104 32	28,165 92	2,544 80	6,330 99
Air Board	159,954 21	25,853 69	130,810 89	3,289 63	
Customs and Excise	1,418 80	.....	1,395 80	23 00	
Finance	5,707 18	311 30	4,214 09	673 61	508 18
Health	2,741 49	253 59	2,279 88	208 02	
Immigration and Colonization	31,855 03	3,967 88	23,184 65	864 47	3,838 03
Indian Affairs	313,025 90	58,833 63	170,933 03	72,970 00	10,289 24
Interior	114,187 27	46,856 91	33,455 03	26,576 67	7,298 66
Justice	465,682 33	25,954 65	356,256 81	64,166 84	19,304 03
Labour	700 00	.....	700 00	.....	
Marine and Fisheries	1,550 13	540 66	521 49	346 98	141 00
Militia and Defence	203,207 03	21,322 26	126,271 75	20,523 54	35,089 48
Mines	131,328 68	3,330 98	106,766 51	13,812 38	7,418 81
Naval Service	18,465 64	4,659 03	13,588 65	217 96	
Post Office	216 00	59 50	156 50	.....	
Printing and Stationery	138,427 90	60,460 39	60,788 88	6,146 05	11,032 58
Public Works	104,729 52	15,769 48	55,796 22	22,767 10	10,396 72
Railways and Canals	81,398 41	19 40	48,196 14	17,157 22	16,025 65
Royal Canadian Mounted Police	17,403 40	2,664 38	10,587 57	3,751 82	399 63
Soldiers' Settlement Board	.....	.....	.....	.....	
Trade and Commerce	.....	.....	.....	.....	
Miscellaneous	2,143 18	127 02	2,143 18	*−127 02	
Total	1,832,288 13	272,089 07	1,176,212 99	255,913 07	128,073 00

* (−) Denotes a credit.

SCHEDULE F

APPROPRIATION EXPENDITURES

War—			
1915–17		$ 1,484,048 90	
1917–18		11,393,654 65	
1918–19		11,831,232 85	
		24,708,936 40	
Less refund 1919–20		41,098 11	
			$24,667,838 29
Soldiers' Civil Re-establishment—			
1919–20		$41,738,130 79	
1920–21		33,528,337 79	
1921–22		17,147,351 17	
1922–23		12,974,783 49	
1923–24 (nine months)		7,741,473 31	
			113,130,076 55
War Bonus—			
1919–20			136,795 29
Provisional Bonus—			
1919–20		$ 1,192,858 88	
1920–21		1,062,748 61	
1921–22		625,401 02	
1922–23		352,493 58	
1923–24 (9 months)		230,923 89	
			3,464,425 98
Demobilization—			
1921–22			37,343 22
Civil Government—S.C.R.—			
1918–19	$ 18,616 13		
1919–20	32,184 40		
1920–21	31,179 95		
1921–22	31,717 26		
1922–23	37,347 82		
1923–24 (9 months)	27,972 97		
			179,018 53
Pension Salaries and Contingencies—			
1921–22			541,829 30
Increase in Salaries due to Reclassification—			
1920–21	$ 3,499 82		
1921–22	1,980 42		
			5,480 24
Superannuation Fund No. 4—			
1923–24 (9 months)			1,120 00
Miscellaneous Gratuities—			
1922–23	510 00		
1923–24 (9 months)	1,133 32		
			1,643 32
			142,165,570 72
Deduct—Casual Revenue—			
1919–20	566 73		
1920–21	68,460 99		
1921–22	1,049,328 99		
1922–23	899,156 25		
1923–24 (9 months)	657,456 86		
		2,674,969 82	
Net total			139,490,600 90

SCHEDULE G

PENSIONS APPROPRIATION EXPENDITURES

European War—			
1916–17		$ 2,447,375 03	
1917–18		7,262,810 23	
1918–19		16,598,601 06	
1919–20		23,308,695 57	
1920–21		35,375,676 22	
1921–22		34,828,787 44	
1922–23		32,025,194 79	
1923–24 (9 months)		24,159,489 30	
			$176,006,629 64
Northwest Rebellion 1885 and General—			
1916–17	$ 19,613 21		
1917–18	17,551 60		
1918–19	24,727 14		
1919–20	15,590 11		
1920–21	23,747 41		
1921–22	34,121 83		
1922–23	41,755 39		
1923–24 (9 months)	31,584 91		
		208,691 60	
Fenian Raid—1866			
1916–17	$ 1,467 80		
1917–18	1,170 25		
1918–19	1,280 25		
1919–20	634 70		
1920–21	514 25		
1921–22	731 63		
1922–23	632 50		
1923–24 (9 months)	520 50		
		6,951 88	
Militia Pensions Act 1901—			
1916–17	$ 87,600 05		
1917–18	94,913 04		
1918–19	136,990 22		
1919–20	228,534 26		
1920–21	406,907 45		
1921–22	484,948 71		
1922–23	560,639 29		
1923–24 (9 months)	469,600 18		
		2,470,133 20	
Civil Government Flying—			
1923–24 (9 months)		992 22	
Salaries and Contingencies—			
1917–18	$ 522,475 31		
1918–19	1,262,655 38		
1919–20	2,183,027 99		
1920–21	1,367,872 34		
		5,336,031 02	
War Bonus—			
1918–19	$ 76,048 40		
1919–20	5,103 54		
		81,151 94	
Provisional Bonus—			
1919–20	$ 245,440 39		
1920–21	179,306 89		
		424,747 28	
			$184,535,328 78
Deduct—Casual Revenue—			
1918–19	$ 645 32		
1919–20	25,930 54		
1920–21	110,372 01		
1921–22	61,923 13		
1922–23	114,569 38		
1923–24 (9 months)	69,636 54		
		383,076 92	
Net total			$184,152,251 86

In addition during the fiscal year ending March 31, 1916, the Department of Militia and Defence paid pensions amounting to $307,571.74, which was charged to war expenditures as European War pensions.

SCHEDULE H

OPERATING EXPENDITURES 1922-23

GENERAL ADMINISTRATION

Salaries—		
General Executive and assistants	$ 80,536 41	
Administration Branch	1,185,312 96	
Accounts and Audit Branch	486,834 86	
Royal Commission on Pensions	7,760 06	
		$ 1,760,444 29
Telephone, telegrams, postage and car fares		42,980 85
Transportation and travelling of staff		72,714 27
Stationery and office supplies		94,735 75
Rent, taxes and insurance		6,172 59
Light, heat, power, fuel and water rates		13,735 36
Maintenance and repairs, furniture and fixtures		14,184 31
Automobile expense		23,742 33
Freight and express		8,571 15
Advertising and publicity		9,159 48
Other general expenses		60,629 43
		$ 2,107,069 81
Deduct—Discount	$ 12,525 06	
Printing revenue	6,800 52	
Commissions earned	8,869 67	
	28,195 25	
		$ 2,078,874 56

SCHEDULE I

TREATMENT ADMINISTRATION

Salaries—		
Medical directors and sub staff	$ 365,374 65	
Dental directors and sub staff	11,102 70	
		$ 376,477 35
Telephone, telegrams, postage and car fares		12,989 67
Transportation and Travelling of Staff		27,869 79
Stationery, Printing and Office Supplies		10,057 85
Rent, taxes and insurance		593 40
Light, heat, power and water rates		3,414 04
Maintenance and repairs to furniture, etc		526 32
Automobile expense		3,150 12
Other charges		2,554 69
		$ 437,633 23

SCHEDULE J

CARE OF PATIENTS AND MEDICAL EXAMINATION OF PENSIONERS

Department Hospitals and Clinics—		
Salaries—		
Medical officers	$ 649,267 82	
Dental officers	128,350 17	
Pensions examination staff	186,118 70	
Other hospital staff	1,863,554 47	
		$ 2,827,291 16
Telephones, telegrams, postage and car fares		16,016 64
Stationery and office supplies		11,793 14
Rent, taxes and insurance		14,552 17
Light, heat, power and water rates		353,350 36
Maintenance and repairs furniture and equipment		78,161 62
Maintenance and repairs buildings and fixtures		38,758 41
Automobile and ambulance		7,669 16
Freight and express		20,954 81
Food and ice		606,305 65
Medical, surgical, dental and X-ray supplies		134,734 44
Employees clothing		3,954 26
Hospital and janitor supplies		34,890 09
Laundry expense		88,276 68
Patients clothing		31,838 77
Cartage and drayage		5,575 02
Amusement supplies and expense		1,987 43
Ward Occupations and occupational therapy		1,501 04
Other general charges		12,327 64
		$ 4,289,938 49
Outside Hospitals and Doctors—		
Professional services	178,887 42	
Maintenance of patients	1,419,814 72	
Other special charges	27,759 51	
		1,626,461 65

SCHEDULE J—*Concluded*

OPERATING EXPENDITURES 1922-23—*Con.*

CARE OF PATIENTS AND MEDICAL EXAMINATION OF PENSIONERS—*Concluded*

Indirect charges—			
Transportation of patients and pensioners	$	142,689 30	
Expenses of escorts		22,727 17	
Funerals and burial		36,564 52	
			201,980 99
Orthopædic and Ophthalmic Expenses—			
Artificial arms, parts and repairs	$	13,666 57	
Artificial legs, parts and repairs		116,605 63	
Boots and shoes and repairs		133,045 79	
Minor Orthopædic appliances and repairs		49,815 95	
Optical supplies, parts and repairs		11,314 22	
Equipment and supplies for the blind		155 98	
Wheel chairs and repairs		4,107 52	
Freight and express		39 03	
			328,750 69
Soldiers' Comforts Branch—			
Salaries	$	10,095 51	
Office expenses		1,424 21	
Comforts, amusements, games, etc., issued to patients and upkeep thereof		21,271 24	
			32,790 96
Farm and Garden Expenses—			
Salaries and wages	$	4,835 26	
Supplies and expense		4,254 23	
			9,089 49
Laundry expense—			
Salaries and wages	$	30,361 59	
Supplies and expenses		10,139 29	
Freight and express		4,122 94	
			44,623 82
Limb Factories and Boot Depots—			
Salaries, wages and supplies	$	384,805 54	
Non productive expense		40,539 42	
			425,344 96
			$ 6,958,981 05

SCHEDULE K

TREATMENT PAY AND ALLOWANCES

Ordinary treatment	$ 2,269,751 99	
Interest on accrued balances	6,064 66	
Payments to dependents of insane	231,825 07	
Allowances to subnormal P.C. 2328	135,379 59	
Travelling allowances—Medical P.C. 580	34,530 91	
Travelling allowances—Orthopædic P.C. 580	21,690 96	
Travelling allowances—Pensioners P.C. 580	118,252 67	
		$2,817,495 85

SCHEDULE L

VOCATIONAL EXPENSE

Training—			
Salaries	$	745 14	
Supplies and expense		31,364 40	
			$ 32,109 54
Loans—			
Salaries	$	26,720 88	
Expense		1,958 98	
			28,679 86
Employment—			
Salaries	$	80,790 04	
Expense		2,424 49	
			83,214 53
Indirect—			
Transportation of staff	$	1,135 67	
Transportation of students		2,266 98	
			3,402 65
			$ 147,406 58

OPERATING EXPENDITURES 1922-23-*Con.*

SCHEDULE M

TRAINING PAY AND ALLOWANCES

Ordinary training	$ 373,898 59	
Training allowances, P.C. 580	346 62	
		$ 374,245 21

UNEMPLOYMENT RELIEF

SCHEDULE N

Relief granted former soldiers and dependents	$ 951,256 85	
Relief granted former soldiers and dependents in Great Britain	2,199 16	
Administration—		
Salaries	60,827 70	
Office expense	10,131 24	
		$ 1,024,414 95

SHELTERED EMPLOYMENT

SCHEDULE O

Operating expenditures	$ 30,537 77	
Manufacturing expenses	61,168 88	
Capital expenditures	27,330 59	
Outside institutions	6,308 30	
		$ 125,345 54

MISCELLANEOUS EXPENSE

SCHEDULE P

Interest on War Service Gratuity	$ 12,981 55	
Interest on Administration Fund	126 76	
Depreciation due to revaluation of Stores and equipment inventories	114,587 49	
Guelph industries	410 45	
Employers assessment liability compensation	44 00	
Workmen's Compensation Board repayments	15,631 50	
Burial grants—Last Post Fund	9,271 59	
Transportation of blind soldiers	50 26	
Expenses to successful applicants to Appeal Board	400 00	
Special disposal	34,837 98	
		$ 188,341 58

REVENUE

SCHEDULE Q

Maintenance of non-Canadians and civilian patients	$ 459,452 73	
Recoveries for meals supplied	10,502 96	
Recoveries for maintenance of staff	251,870 43	
Dental services performed	6,088 58	
X-ray services performed	12,296 20	
Pensions medical examination of non-Canadian pensioners	10,500 00	
Orthopædic and boot factories—value of production	352,692 25	
Laundry—Value of production	46,878 51	
Farm and garden—value of production	7,860 88	
Sheltered employment—value of production	40,846 75	
Recoveries for vocational training of non-Canadians	1,950 96	
Imperial Pension Office—Commissions earned on total disbursements	117,126 07	
		$ 1,318,066 30

CHANGES IN CAPITAL ACCOUNTS

SCHEDULE R

Decreases—(Sales Disposal Consumption)—		
Lands	$ 7,830 55	
Buildings and fixtures	44,355 66	
Equipment	284,963 16	
Cash advances	3,878 04	
General treatment, disposal and Orthopædic and surgical appliances stores	359,678 78	
Suspense (deferred charges)	7,861 60	
Vocational loans	114,857 74	
Accounts receivable	252,975 29	
		$ 1,076,400 82
Increases—		
Live stock	$ 678 50	
Transfers of surplus stores and equipment to other Government departments	255,913 07	
Repatriation loans	11,978 64	
		268,570 21
Net decrease		$ 807,830 61

DISABLEMENT FUND

The following statement of loans advanced and repayments made during the year 1923 indicates the activity of the fund:—

Sundry advances outstanding 31-12-22	$22,763 94	
Total advances made during the year	71,280 10	
Refunds received during the year		$69,369 07
Sundry loans outstanding 31-12-23		24,674 97
	$94,044 04	$94,044 04

During the previous year sundry advances during the year aggregated $48,666 36

STATEMENT OF DISABLEMENT FUND AS AT DECEMBER 31, 1923

Subscriptions		$93,628 17
Accumulated interest on same		44,567 08
Accounted for as follows:—		
Invested in Govt. Securities ($100,000 C.N.R. Bonds)	92,095 01	
Sundry H.O. Loans	17,289 35	
Unit Funds	12,270 00	
Loans considered unrecoverable	5,483 88	
Donations	7,717 23	
Administrative expense	177 80	
Cash on hand	3,161 98	
	$138,195 25	$138,195 25

STAFF

The following statement shows the total staff of the department as at the 31st December, 1919, 1920, 1921, and 1922. It also shows the staff at the Head and Unit offices at the 31st December, 1923, together with the distribution according to service.

	1919	1920	1921*	1922*	1923*
Head Office, Ottawa	883	586	1,078	805	689
"B" Unit, Nova Scotia New Brunswick and Prince Edward Island	718	569	395	328	266
"A" Unit, Quebec	851	685	518	459	406
"C" Unit, Eastern Ontario	464	504	338	261	142
"D" Unit, Central Ontario	2,558	1,498	1,159	876	631
"F" Unit, Western Ontario	642	536	369	351	297
"G" Unit, Manitoba	462	256	186	146	130
"H" Unit, Saskatchewan	209	113	74	67	60
"I" Unit, Alberta	574	407	375	238	220
"J" Unit, British Columbia	760	609	374	272	239
Overseas Office	5	16	20	20	14
	8,126	5,779	4,886	3,823	3,094

*Includes all staff engaged in pension work other than the Pension Commissioners, their immediate medical advisers and secretarial staff.

—	Total Staff December 31				Staff at Head Office and Unit Offices December 31, 1923												
	1919	1920[1]	1921[2]	1922	Head Office	N.S. N.B. and P.E.I. Unit	Quebec Unit	Eastern Ontario Unit	Central Ontario Unit	Western Ontario Unit	Manitoba Unit	Saskatchewan Unit	Alberta Unit	British Columbia Unit	Overseas Office	Total	Percentage
Service in France	3,793	2,959	2,557	2,105	233	137	243	80	452	170	87	30	152	167	8	[3]1,759	56·8
Service in England	470	552	387	321	34	14	36	6	64	34	16	6	17	20	1	[4] 248	8·1
Services in Canada	278	239	188	146	18	12	19	12	25	18	2	2	1	3	0	[5] 112	3·6
Rejected or exempted from military service	92	61	43	31	16	2	1	2	3	2	0	0	0	1	0	27	0·9
Boys under and men over military age	466	238	180	128	42	10	7	4	15	6	0	3	3	5	1	96	3·1
Civilians—Male	207	95	26	26	5	9	4	0	0	1	1	2	0	1	0	23	0·7
Civilians—Female	2,820	1,635	1,505	1,066	341	82	96	38	72	66	24	17	47	42	4	829	26·8
	8,126	5,779	4,886	3,823	689	266	406	142	631	297	130	60	220	239	14	3,094	100·0

[1]The peak load was reached March 31, 1920, when the staff of the Department numbered 8,791 irrespective of the staff of the Board of Pension Commissioners which at that date was upwards of 1,000.
[2]Board of Pension Commissioners' staff, numbering 854 was taken over by the Department during 1921.
[3]Including 173 Nursing Sisters.
[4]Including 31 Nursing Sisters.
[5]Including 1 Nursing Sister.

DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT

CANADA

— DISABILITY PENSIONERS —

COMPARATIVE CHART SHOWING YEARLY LIABILITY AMOUNT BY DISABILITY GROUPS, AS AT MARCH 31ST. 1923.

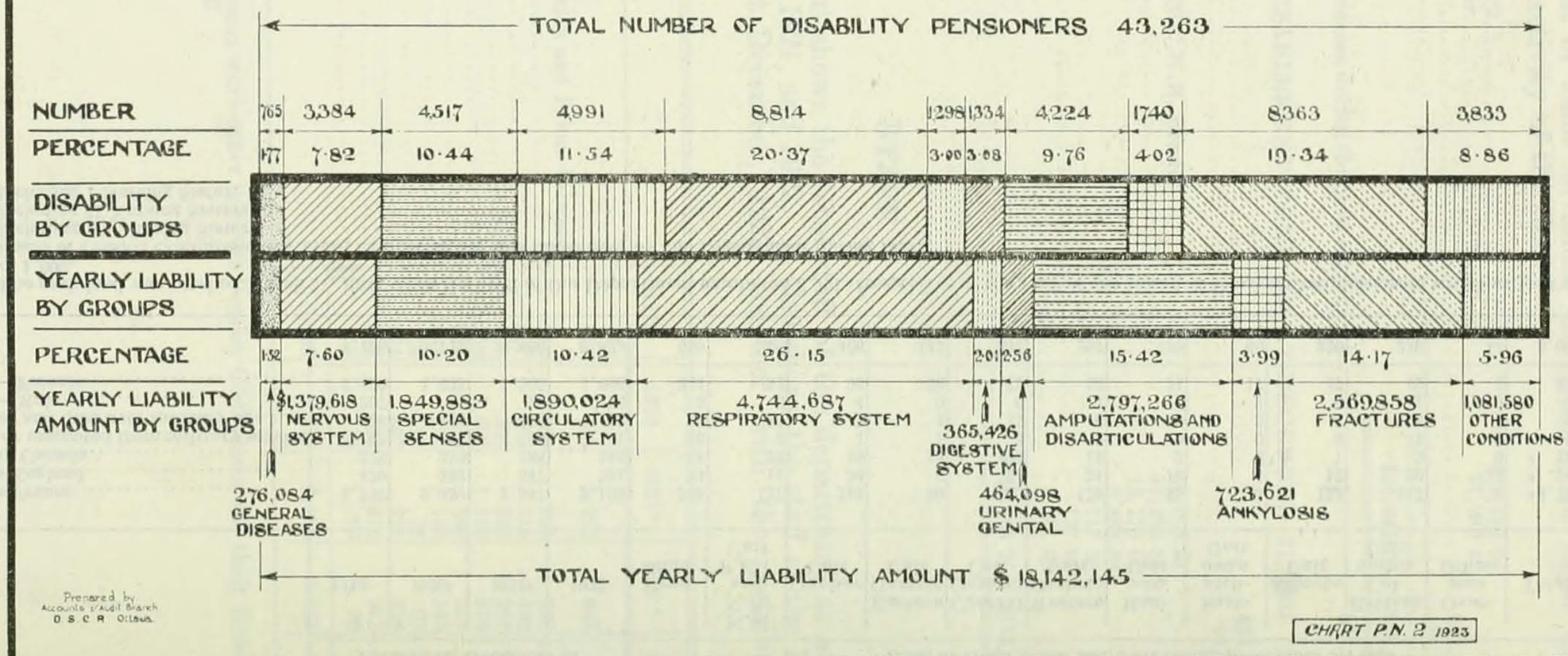


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CHART P.N. 2 1923

APPENDIX I

Order in Council P.C. 580 dated the 10th March, 1922, as amended by Order in Council P.C. 1127 dated the 26th June, 1923. Authority under which the Department of Soldiers' Civil Re-establishment may give treatment or training to former members of the Forces may issue allowances in connection therewith, and may pay costs incidental to medical examination.

Whereas the Minister of Soldiers' Civil Re-establishment reports that by Order in Council of the 28th September, 1918 (P.C. 1993) and by Order in Council of the 24th February, 1919 (P.C. 387) certain authorities were granted to the Department of Soldiers' Civil Re-establishment in respect of medical treatment, vocational training, pay and allowances of former members of the forces and other matters;

And whereas the aforesaid Orders in Council have been amended by other Orders in Council;

And whereas further Orders in Council dealing with specific matters have also been passed from time to time and it is now necessary, in view of changed conditions since these Orders in Council were promulgated, that the provisions of those named hereafter be rescinded and certain of the authorities contained therein consolidated;

Therefore His Excellency the Governor General in Council, on the recommendation of the Minister of Soldiers' Civil Re-establishment, is pleased to order and it is hereby ordered that the provisions of the following Orders in Council be rescinded, viz.:—

Passed under the War Measures Act, and re-enacted by Order in Council P.C. 2324, dated the 21st November, 1919, passed under the Department of Soldiers' Civil Re-establishment Act:

P.C. 1993, dated 28th September, 1918,
P.C. 387, dated 24th February, 1919,
P.C. 804, dated 12 April, 1919,
P.C. 814, dated 16th April, 1919,
P.C. 1846, dated 10th September, 1919,
P.C. 2131, dated 16th October, 1919,

Passed under the Department of Soldiers' Civil Re-establishment Act:—

P.C. 2327, dated the 21st November, 1919,
P.C. 2329, dated the 21st November, 1919,
P.C. 2301, dated the 21st November, 1919,
P.C. 2554, dated the 24th December, 1919,
P.C. 112, dated the 28th January, 1920,
P.C. 728, dated the 21st April, 1920,
P.C. 1549, dated the 8th July, 1920.
P.C. 2139, dated the 15th September, 1920,
P.C. 2687, dated the 6th November, 1920,

and that the following regulations and authorities be substituted therefor:—

1. DEFINITIONS:

Former member of the forces.

(*a*) *Former member of the forces* means any person who has served in any of the naval, military or air forces of Canada during the late war;

(*b*) *Former member of the Imperial forces* means any person who has served in the naval, military or air forces of the United Kingdom of Great Britain and Ireland, during the late war;

(*c*) *Former member of the Dominion forces* means any person who has served in the naval, military or air forces of any British Dominion or Colony other than the Dominion of Canada during the late war;

(*d*) *Former members of the Allied forces* means any person who has served in the naval, military or air forces of any country allied or associated with the Government of Canada during the late war;

Pre-war resident.

(*e*) *Pre-war resident of Canada* means a former member of the Imperial, Dominion or Allied forces who was domiciled in Canada, on the 4th August, 1914, and has returned to Canada since the conclusion of his service in the said forces;

Permanent force.

(*f*) *Member or former member of the Permanent forces of Canada* means any penson who is serving or has served in any military or naval or air force of Canada and who does not require treatment for a disability attributable to service in the late war;

Disability attributable to service.

(*g*) *A disability attributable to service* means the loss or lessening of the power to will or to do any normal mental or physical act; recognized by medical authority to be a result of an injury suffered or a disease contracted (other than those resulting from vice or misconduct) on service; or to be the result of an injury or a disease either aggravated on service in a theatre of actual war, or aggravated by service outside a theatre of actual war;

Disability aggravated on or by service.

(*h*) *A disability aggravated on or by service* means an increase in the effect of a pathological condition which pre-existed enlistment.

Mental disability.

(*i*) *A mental disability* means a persistent morbid condition of mind indicating a diseased condition of the brain, or nervous system, and characterized by a deficiency of volitional and rational control necessitating the treatment and custodial care of the patient suffering from the same.

Military service.

(*j*) Military service or service includes naval and/or air service, and is confined to service in the late war.

Department.

(*k*) *Department* means the Department of Soldiers' Civil Re-Establishment.

(*l*) *Child* means a legitimate child of a former member of the forces, his step-child, his illegitimate child for whom he is paying maintenance or is supporting, his adopted or foster child, if he was maintaining such child prior to the appearance of his disability, and subject to the condition regarding an adopted or a foster child, any other person in regard to whom he stands in loco parentis.

Pension.

(*m*) *Pension* means a pension payable by the Government of Candada on account of a disability attributable to service in the late war, and includes addition to pension and temporary pension, but does not include long service or other service pension, or pension awarded in respect of a decoration.

(*n*) *Pensioner* means any former member of the forces who is at the time of making application for treatment or training in receipt of a pension payable by the Government of Canada. Pensioner.

(*o*) *Minor* means any former member of the forces who enlisted under the age of 18 and who, because of the late war suffered a severe interruption to his training or education. Minor.

(*p*) *Treatment* includes medical and surgical treatment and also includes dental services and the provision of prosthetic appliances. Treatment.

(*q*) *Medical authority* means the opinion of a medical practitioner acting on behalf of the department, subject to the concurrence of the Director of Medical Services or supervising medical officers appointed by him. Medical authority.

(*r*) *Dependents* means only such persons as are classed as dependents under the Pension Act, except where otherwise specifically stated herein. Dependents.

(*s*) *The late war* means the war which commenced on the 4th day of August, 1914, and was officially concluded on the 31st day of August, 1921. The late war.

(*t*) Terms indicating the masculine gender apply also to the feminine gender. Masculine and feminine.

(*u*) *Maintenance* means the cost to the department for the provision of medical treatment, care and subsistence in a hospital or other institution operated by the department or the cost to the department of these services in a hospital or other institution not operated by the department but in regard to which the department has entered into an agreement for the provision of the same, or such lesser amount as the department may determine in individual cases. Maintenance. (P.C. 1127) 26-6-23.

Clause 2.—Clause 2 is cancelled and the following is substituted therefor:— Treatment persons eligible for.

(1) Any former member of the forces who, in the opinion of medical authority, is suffering from a disability attributable to service shall be entitled to treatment and during treatment, if not suffering from a mental disability, to the allowances set forth in clause 4 hereof. (P.C. 1127) 26-6-23.

(2) Where in the opinion of the department the condition for which application for treatment is made is not attributable to service, but where there is nevertheless a real possibility that the condition might be considered attributable to service, though reasonable proof it not obtainable, in order that full justice may be accorded the department may grant treatment only without allowances, provided: Treatment without pay and allowances.

(*a*) That if at a later date sufficient evidence is produced to justify the department in its action, the allowances set forth in clause 4 hereof may be paid as from the date treatment at the hands of the department was commenced.

(*b*) That no treatment shall be given without the direct authorization of the Deputy Minister.

(*c*) That in the case of a pensioner, partial subsistence may, subject to the approval of the Board of Pension Commissioners for Canada, be deducted from pension in accordance with the following scale:—

(1) Man without dependents, $1 per day or the entire pension, whichever is the lesser.

(2) Man with dependents, a similar deduction from the pension payable to the man himself, it being definitely understood that any pension payable to his dependents shall in no wise be interfered with in this connection, and that the Board of Pension Commissioners may transfer and pay to the dependents a portion or the whole of the pension payable to the man himself.

(*d*) That the foregoing provisions shall apply to former members of the Canadian Expeditionary Force who are residents of Canada, only.

Treatment of permanent force, etc.

Clause 3.—The department may give treatment and hospitalization to any member or former member of the permanent force of Canada, the naval service of Canada, the Air Force of Canada or the Royal Canadian Mounted Police, for a disability attributable to service in any of the said forces or services, other than service in the late war, on such terms as may be arranged from time to time between the department and the Department of National Defence, or the Royal Canadian Mounted Police.

Treatment allowances.

Clause 4.—(1) The per diem allowances set forth in the schedule hereto attached and marked "A" (hereinafter referred to in this clause as the "allowance") shall, subject to the conditions set forth in paragraph (2) to (16) of this clause, be payable monthly in arrears to or in respect of a former member of the forces while he is undergoing treatment for a disability attributable to service which prevents him from obtaining or continuing employment unless the disability for which treatment is being given is a mental disability in regard to which custodial care is indicated.

Clothing allowances.

(2) The allowances are inclusive of clothing allowances.

Acting rank.

(3) The allowances are payable in respect of the rank or acting rank held by the former member of the forces in respect of which he was in receipt of pay and allowances at the time of his retirement or discharge or the rank at which he is pensioned, whichever is the higher.

Medical and dental officers.

(4) In the cases of medical and dental officers where the pay of rank under the Department of Militia and Defence would be $1 per day in excess of the allowances, they shall be increased by $1 per day.

Manner allowances payable.

(5) The allowances shall be payable in the following manner:—

(*a*) Single man in hospital: $17 per month, the balance to be held by the department until the completion of treatment, provided that the department may, at its discretion, authorize the payment out of the man's credit balance of any sums necessary for the payment of insurance premiums or for other justifiable purposes.

(*b*) Men at home: the full allowances authorized.

(c) Married men in hospital or men in hospital with dependents in respect of whom allowances are payable: to man, $17 per month; to wife or dependent, full dependent's allowances authorized, the balance to be held by the department until the completion of treatment, provided that the department may at its discretion authorize the payment out of the man's credit balance of any sums necessary for the payment of insurance premiums or for other justifiable purposes.

Allowances for widowers.

(6) If a widower has children and it is necessary in order to keep the family together for him to employ a person for full time to care for them he may, at the discretion of the department, be paid as a married man with children.

Separation of husband and wife or desertion.

(7) If a former member of the forces undergoing treatment is separated from his wife the following procedure shall be followed:—

(a) Where desertion, within twelve months prior to the date of the commencement of treatment, on the part of the man has been proved to the satisfaction of the department the allowances for a married man with or without children may be payable at the discretion of the department. If the desertion took place at an earlier date no allowances shall be payable in respect of the wife or children unless it is considered by the department after full investigation of the facts, that an injustice would be done by withholding such allowances.

(b) Where desertion on the part of the wife has been proved to the satisfaction of the department, the man shall be paid as a single man or if he is maintaining his children, as a widower with children no allowances shall be payable to the wife.

(c) If a man and wife have mutually agreed to separate or if a separation order or divorce has been effected, the man shall be paid as a single man, when no alimony or amount in lieu of alimony has been arranged or is being paid by the man. When alimony or amount in lieu thereof has been agreed upon or if the man is voluntarily making an alimentary allowance he shall be paid as a single man and the amount payable to the wife or former wife shall be deducted from his allowances provided that if the amount payable to the wife or former wife shall exceed the difference between $25 per month and the amount payable to a single man the department shall pay to the wife or former wife any such excess. If the man is also supporting his children apart from his wife he shall, in addition, be paid in respect of the children, at the rate of 49 cents per day for the first child, 39 cents per day for the second child, and 33 cents per day for third and each additional child. In no case shall the total allowances payable exceed those set forth herein for a married man with wife only if there are no children, or for a married man with children if there are children.

Man with dependent or dependents.

(8) "Man with dependent or dependents" means a widower with a child or children, a single man with a dependent parent or parents and/or with a dependent brother or sister or dependent brothers or sisters.

Children in excess of six.

(9) Subject to paragraph (12) of this clause, when there are more than six children or dependents the dependents' allowances shall be increased by 33 cents per day in respect of each child or dependent in excess of six.

Dependent parents.

(10) If a married man is supporting a parent or parents, or a brother or brothers, or a sister or sisters, any such extra dependent may, for the purpose of receiving allowances, be regarded as a child.

Proof of dependency.

(11) Dependency must in all claims for allowances in respect of parents or brothers or sisters or partial dependents be proved to the satisfaction of the department.

Dependents of officers.

(12) No allowances in respect of children or other dependents (other than wife) shall be payable to ranks of Captain (military), Lieutenant (naval) and above, provided that in the case of a single officer where separation allowance was issued during service to his dependent parent and dependency has continued, the department may, at its discretion, pay the allowances set forth herein for a married officer.

Partial dependents.

(13) The allowances for partial dependents are maximum. Lesser allowances may be paid at the discretion of the department.

Deduction of pension from allowances.

(14) If the former member of the forces is a pensioner and the pension is less than the amount of allowances, there shall be deducted from each payment of such allowances the amount of pension to which he or his dependents may be entitled for the period for which he is undergoing treatment, such deductions being made from the amounts payable to the man himself or his dependents or both at the discretion of the department, provided that if the pension is greater than the amount of the allowances, the man and his dependents shall be paid out of his pension an amount equivalent to the said allowances in lieu thereof.

Man and wife undergoing treatment.

(15) When a man and wife, both former members of the forces, are undergoing treatment at the same time, the allowances payable shall be as to two single former members of the forces in accordance with the rank of each. In cases where there are children or other dependents, if the allowances payable to a married man with children or other dependents based on the rank of the man would be in excess of those payable in respect of two single former members of the forces in accordance with the rank of each, they shall be substituted therefor, but if they would be less, no extra allowances in respect of children or other dependents shall be payable.

Allowances when residing outside of Canada.

(16) None of the allowances shall apply to or in respect of former members of the forces who are residing in, and require medical treatment in any country outside of Canada with the Government of which the department has a reciprocal arrangement under which former members of the forces are to receive the same allowances while undergoing medical treatment as former members of the forces of the said country.

Continuation of allowances one month after conclusion of treatment.

Clause 5.—The payment of allowances authorized by clause 4 hereof may, at the discretion of the department, be continued for one month after the completion of treatment of a former member of the forces, provided that (*a*) in the opinion of the department his conduct, while undergoing treatment, has been satisfactory; (*b*) his treatment has occupied a longer period than two months; (*c*) he is not entitled to any payment of war service gratuity; (*d*) in the opinion of the department such continuation of payment is necessary to assist him in obtaining employment or to tide him over a period of temporary difficulty or convalescence.

Out-patients Class 2.

Clause 6.—When a former member of the forces not in receipt of allowances under clauses 4, 11 or 20, whose disability does not prevent him from obtaining or continuing employment, requires out-patient treatment or examination, he shall be entitled to receive such treatment or examination from the department and to receive such medicine as he may need. He shall not be entitled to receive the allowances set forth in clause 4 hereof, but if attendance for such treatment or examination causes such former member of the forces a monetary loss he shall, on producing a certificate from his employer, other than himself, that his wages are stopped or other evidence satisfactory to the department, be entitled at the discretion of the department to be reimbursed for such loss up to, but not exceeding one dollar ($1) for each attendance for treatment or examination, together with reasonable travelling expenses, provided that if he is his own employer he may sign the certificate himself but no amount shall be paid to him unless the department is satisfied that he has sustained the loss for which claim is made, provided also that no amount shall be paid in any case when attendance is merely for the purpose of obtaining medicine.

(P.C. 1127) 26-6-23.

Men refusing to undergo treatment, misconduct.

Clause 7.—If a medical officer of the department reports that a former member of the forces should undergo treatment, and such former member of the forces unreasonably refuses to undergo such treatment or if by any reason of the misconduct of such former member of the forces while undergoing treatment it is necessary at the discretion of the department to discontinue this treatment, the pension to which he or his dependents would otherwise be entitled may, at the discretion of the Board of Pension Commissioners for Canada, be reduced and any war service gratuity to which such former member of the forces and his dependents at the time such report is received, or such treatment is discontinued by the department may be entitled, may be withheld until such former member of the forces has undergone and completed the treatment so recommended or such misconduct has been excused. The decision as to what under the provisions of this clause constitutes unreasonable refusal or misconduct shall rest with the department.

(P.C. 1127) 26-6-23.

Interest on credit balances.

Clause 8.—The department may pay interest at the rate of five per cent per annum on the amounts of allowances or other moneys withheld, under the provisions of this Order in Council, or any other enabling authority, from former members of the forces or pre-war residents of Canada who have been on the strength of the department for treatment for a period of three months or longer, such

interest to be credited on all open accounts of such former members of the forces as at the 30th June and the 31st December in each year, or at the date of completion of treatment, provided that no interest shall be payable by the department on balances which are withheld, owing to failure on the part of the former member of the forces to claim the amount due or to furnish the department with his proper address, or the proper address of his dependents, or owing to the disturbed condition of the country in which the dependents reside.

Treatment for mental disabilities.

Clause 9.—(1) The department shall have authority to operate such hospitals for psychiatric treatment of persons suffering from mental diseases as may be deemed necessary and may make such arrangements with the Provincial Governments in regard to such hospitals as may be required and may also, when it is recognized by medical authority that the department is liable for maintenance, make arrangements with the Provincial Governments for the care and treatment of former members of the forces who are not mentally responsible in provincial institutions for the treatment of mental diseases.

Classification of mental disabilities.

(2) Former members of the forces who are not mentally responsible may be divided into five classes as follows:—

Mental disabilities Class (A).

(A) Men who were retired or discharged from military service owing to a mental disability entirely attributable to service or who since retirement or discharge have developed a mental disability which is recognized by medical authority as entirely attributable to service;

Mental disabilities Class (B).

(B) Men who were retired or discharged from military service owing to a mental disability only aggravated on or by service or who since retirement or discharge have developed a mental disability which is considered by medical authority to have been aggravated on or by such service;

Mental disabilities Class (C).

(C) Men who were retired or discharged from military service owing to a mental disability not in any way attributable to nor aggravated on or by such service;

Mental disabilities Class (D).

(D) Men who were retired or discharged from military service as a result of a disability not mental and who have been pensioned or are undergoing medical treatment for such disability and who, while on pension, or while undergoing such treatment, have developed a mental disability not attributable to service, for which treatment in a psychiatric institution is necessary;

Mental disabilities Class (E).

(E) Men who were retired or discharged from military service with all systems normal or without pensionable disability and who have subsequently developed a mental disability which is not attributable to service.

Division of classes.

Each of these classes may be subdivided as follows:—

(I) With dependents.

(II) Without dependents.

Classes (A) and (B):

Classes (A) and (B).

(I) With dependents

(*a*) During treatment the former member of the forces shall be maintained by the department, and his dependents shall be paid by the department a sum per month equal to the amount of pension which would be payable to them if he had died on active service.

(*b*) Should he be certified to have recovered from his mental disability and in the opinion of medical authority to be fit to pass permanently under his own control, the allowances which would have been paid to him and his dependents, had he been receiving treatment for a disability other than mental, shall subject to sub-paragraph (III) of this paragraph be computed and there shall be deducted therefrom the amounts which have been paid to or in respect of his dependents and the amounts which have been paid for or in respect of clothing and comforts and other expenses for the man himself, other than maintenance, and the balance shall be paid to him in one sum or spread over a period at the discretion of the department, provided that no amounts, other than those set forth in section (*a*) of this sub-paragraph, shall be payable to his dependents or his estate, should he die while undergoing treatment.

(P.C. 1127) 26-6-23.

(II) Without dependents.

(*a*) During treatment the former member of the forces shall be maintained by the department.

(*b*) Should he be certified to have recovered from his mental disability and to be entirely rational and responsible, the allowances which would have been paid to him had he been receiving treatment for a disability other than mental, shall, subject to sub-paragraph (III) of this paragraph, be computed and there shall be deducted therefrom the amounts which have been paid for or in respect of clothing and comforts and other expenses than maintenance, and the balance shall be paid to him in one sum or spread over a period at the discretion of the department, provided that no amounts shall be payable to his estate, should he die while undergoing treatment.

(III) If a former member of the forces was undergoing treatment for a mental disability on the 1st September, 1920, and subsequently recovers as provided in sub-paragraphs (I) (*b*) and (II) (*b*) of this paragraph the amount to be payable to him in respect of the period prior to the 1st September, 1920, shall be arrived at in accordance with the provisions then extant under the authority of Order in Council P.C. 1993, 1918, prior to its amendment by Order in Council P.C. 2139, 1920.

Class (C).—If the former member of the forces was transferred to the department by the Department of Militia and Defence or the Department of the Naval Service immediately on retirement or discharge from the forces, he shall, during treatment, be maintained by the department. No allowances shall be paid to him or to his dependents during treatment and no amounts shall be paid to him should he recover, provided that the department may issue, free of charge, such clothing and comforts as at its discretion may be deemed necessary for such patient while undergoing treatment, provided also that if the former member of the forces has recovered sufficiently

Class (C).

to have been discharged to pass under his own control, or has been discharged to pass under the care or jurisdiction of his relatives, should such member of the forces at any future date suffer a relapse, he shall be considered under Class E, and not under Class C.

Class (D).

Class (D).—(*a*) should a former member of the forces who is in receipt of pension for a disability other than a mental disability, develop a mental disability not attributable to service, and for which mental disability treatment is required, he may, at the discretion of the department, be placed in a departmental institution. If such former member of the forces is placed in a departmental institution, the cost of maintenance up to $30 per month may, at the discretion of the Board of Pension Commissioners and the department, be paid from such payments of pension or other payments, as the former member of the forces may be entitled to. If such pension, or other payments, is less than $30 per month, the entire amount may be paid to the department. The above payments are in no circumstances to be made from pension, or other payments, payable in respect of his dependents.

(P.C. 1127) 26-6-23.

(*b*) Should a former member of the forces who is receiving treatment from the department for a service disability other than mental develop a mental disability not attributable to service, which requires treatment in a psychiatric institution, the department may transfer such former member of the forces to one of its hospitals for the treatment of mental diseases or to a provincial institution. If treatment for the service disability has not been completed allowances in respect of the same may be continued, but if treatment has been completed the eligibility of the former member of the forces for pension shall be determined and in the event of pension being indicated, disposition shall be made as under subsection (*a*) of this paragraph.

Class (E).

Class (E).—Should a former member of the forces who was retired or discharged with all systems normal or without pensionable disability, subsequently develop a mental disability which is certified by medical authority as not attributable to service, the department shall cause such former member of the forces, if in a hospital under the observation of the department, to be transferred to a provincial institution or to the custody of his friends, no responsibility being accepted by the department for maintenance or otherwise.

Appointment of guardians.

(3) If a legal guardian or curator has been appointed to administer the affairs of a former member of the forces suffering from a mental disability and if the department has been relieved of responsibility for his care and maintenance, he may be discharged to the care of such guardian, when his case shall be considered for pension by the Board of Pension Commissioners for Canada, but neither he nor his guardian shall be entitled to any payments under the provisions of subsections (I), (II) and (III) of paragraph (2) of this clause, until he has recovered from his mental disability.

Recovery of Class (A) or (B) patients.

(4) When a former member of the forces classified (A) or (B) who has been undergoing treatment for a mental disability has sufficiently recovered to be allowed temporarily to pass under his own control or that of his friends, the allowances provided for an out-

patient Class 1 (clause 4) may, at the discretion of the department, be paid to him during a period of parole, provided that he shall undergo re-examination at intervals of not longer than three months. When he has recovered sufficiently to pass under his own control without departmental oversight and has been discharged from treatment by the department, his case shall be considered for pension by the Board of Pension Commissioners for Canada, and such payments as may be due to him by the department shall be made to him in accordance with the provisions of subsection (I), (II) and (III) of paragraph (2) of this clause.

Allowance for comforts, &c.

(5) The department may issue an allowance to or in respect of a former member of the forces receiving treatment in a departmental hospital for a mental disability and may arrange with the superintendents of provincial institutions for an allowance to be made to a former member of the forces receiving treatment at the expense of the department in such institutions for the purpose of purchasing clothing, tobacco and other comforts, or any payments approved by the department except in the case of provincial institutions where issue of clothing, tobacco and other comforts is included in the charge for maintenance, and the amount of such allowance shall be charged against the former member of the forces on the books of the department and shall be deducted from any amounts payable to him should he recover, but in the event of his non-recovery it shall be written off, provided that such allowance for tobacco and other comforts shall not exceed $3 per month, provided also that the department may in the case of men in Classes (A) and (B) pay such further amounts as may be required for the payment of insurance premiums or other justifiable purposes up to an additional $7 per month.

Training of disabled men.

Clause 10.—(1) Any former member of the forces, who, in the opinion of medical authority, is suffering from a disability attributable to service which in the opinion of the department prevents such former member of the forces from returning to his previous trade or principal occupation, shall be entitled to training for a new occupation in accordance with the regulations of the department and during training to the allowances set forth in clause 11 hereof, provided that no former member of the forces shall be entitled to such training unless application for the same was made on or before the 1st February, 1920, or three months from the date of retirement or discharge from the naval or military forces, whichever is the later, or three months from the completion of treatment granted by the department when such treatment has been granted immediately subsequent to retirement or discharge, or, in the case of a former member of the forces not previously eligible requiring treatment through a development of a disability attributable to service, within three months of the conclusion of such treatment.

Training of minors.

(2) Any minor who at the discretion of the department, appears to be eligible may be granted training in one of the department's training classes in a high school, college, university, business college or industrial establishment for such period as may be considered necessary by the department and may during training be paid the allowances set forth in clause 11 hereof, provided:

Limit of Allowances to minors.

(*a*) That the allowances payable to such minors shall not exceed eight times the monthly allowances herein set forth for men undergoing training.

Lesser allowances may be paid to minors.

(*b*) That in cases where the payment of the allowances hereby authorized would not appear to be justified, the department may, at its discretion pay such lesser allowances as may be warranted by the conditions under which training is provided.

Allowances to minors may be held back.

(*c*) That the department may hold a portion of any allowances payable and pay the same to the minor at the conclusion of his course or later, if at the discretion of the department, it is deemed advisable so to do.

Limit of time for application.

(*d*) That application for training was made prior to the 1st February, 1920.

Training allowances.

Clause 11.—(1) The allowances payable to or in respect of a former member of the forces while he is undergoing training by the department shall, subject to the conditions set forth in paragraphs (2) to (10) of this clause be as follows, and shall be paid monthly in arrears:—

Amount payable	Payable to man	Payable to wife	Payable to or in respect of dependents	Total
	$	$	$	$
(a) Single man without dependents	75	.....	.....	75
(b) Man with wife and no other dependents	50	50	.....	100
" 1 child	50	65	.....	115
" 2 children	50	77	.....	127
" 3 children	50	87	.....	137
(c) Widower with 1 child	75	.....	20	95
" 2 children	75	.....	30	105
" 3 children	75	.....	40	115
(d) Man without wife or children but with parent or parents or brother or sister or brothers or sisters wholly or mainly dependent on him.				
with one parent only	75	.....	25	100
" and 1 brother or sister	75	.....	40	115
" and 2 brothers and sisters	75	.....	52	127
" and 3 brothers or sisters	75	.....	62	137
with two parents and no sisters or brothers	75	.....	40	115
" 1 "	75	.....	52	127
" 2 brothers or sisters	75	.....	62	137
" 3 "	75	.....	72	147
" 1 orphan brother or sister	75	.....	20	95
" 2 " brothers or sisters	75	.....	30	105
" 3 " "	75	.....	40	115
(e) Man without wife or children but with a person or persons partially dependent on him	75	.....	25	100

(2) For children or brothers or sisters in excess of three $10 each per month shall be payable.

Payments in respect of dependents may be diverted.

(3) The department may, at its discretion, pay to a guardian or other person having charge of any child or children or brother or brothers or sister or sisters referred to in this clause, such portion of the allowances set forth in this clause as it may deem necessary

and may deduct the amount so paid from the allowances payable to the former member of the forces or from the allowances payable to his wife or other dependent as the circumstances of the case may warrant.

Dependents' allowances are maximum.

(4) The dependents' allowances as per subsections (*c*), (*d*) and (*e*) of paragraph (1) of this clause shall, subject to paragraphs (5) and (6) of this clause, be the maximum allowances payable to or in respect of such dependents, but if at the discretion of the department lesser amounts are considered sufficient for the maintenance of such dependents the department may award such lesser amounts.

Deduction for subsistence when living in.

(5) In cases where a former member of the forces while undergoing training by the department, is subsisted by the department, the sum of $30 per month (to cover cost of such subsistence) shall be deducted from the allowances of such former member of the forces, provided that when such former member of the forces has a dependent or dependents, to or in respect of whom allowances are payable under this clause, and with whom he is residing at the commencement of his training by the department and owing to his undergoing training is unable to continue to reside with such dependent or dependents, or finds it necessary, with the approval of the department, to remove such dependent or dependents to another place of residence, the sum of $22 only shall be deducted and the allowances payable to or on account of such dependent or dependents may at the discretion of the department be increased by $8 per month.

Additional allowance when living away from or having to move dependents.

(6) In cases where a former member of the forces who while undergoing training is not subsisted by the department, and who has a dependent or dependents, to or in respect of whom allowances are payable under this Order in Council with whom he was residing at the commencement of his training, is owing to his undergoing training, unable to continue to reside with such dependent or dependents, or finds it necessary, with the approval of the department, to remove such dependent or dependents to another place in order to continue to reside with them the allowances payable for such former member of the forces under this Order in Council shall be increased by an amount of $8 per month, and the allowance payable to or on account of such dependent or dependents shall also be increased by an amount of $8 per month.

Men married during training.

(7) If a former member of the forces is unmarried or a widower at the time his training is approved by the department and marries during the progress of his training, the allowances for a married former member of the forces shall be paid to him from the date of his marriage, or in the event of the interruption of his training on account of his marriage, from the date of the resumption of his training, instead of the allowance he or his dependents, if any, were receiving prior to his marriage.

Pension discontinued during training.

(8) If a former member of the forces who is undergoing training by the department is a pensioner, any payments of pension covering the period of training, whether in respect of himself or his dependents, shall be deducted from the allowances set forth in this clause.

(P.C. 1127) 26-6-23.

Allowances include car fares and meals.

(9) The allowances set forth in this clause shall include expenses of transportation to and from places of training and meals except as provided in paragraph (5) of this clause and in clause 20 hereof.

Continuation of allowances one month after completing training.

(10) The payment of allowances authorized by this clause shall be continued for one month after the completion of training of a former member of the forces other than a minor, provided that (*a*) in the opinion of the department his conduct while undergoing training has been satisfactory, (*b*) his training has occupied a longer period than two months, (*c*) in the opinion of the department such continuation of payment is necessary to assist him in obtaining employment or to tide him over a period of temporary difficulty.

Institutional treatment while undergoing training.

Clause 12.—If a former member of the forces who is undergoing training by the department requires institutional treatment during the period of his training, his training allowances and the allowances of his dependent or dependents may be continued during the period of such institutional treatment, subject to deduction as set forth in paragraph (5) of clause 11 hereof, provided (*a*) that the payment of such allowances by the department during the period of such treatment shall be suspended if the treatment is made necessary by misconduct, (*b*) that if the disability is attributable to service the former member of the forces may at any time be transferred from training allowances to treatment allowances at the discretion of the department, and (*c*) that if the said treatment is required for a disability not attributable to service, no allowances shall be payable after the conclusion of the period for which training was granted or after the 31st July, 1923, whichever is the later.

Payment of allowances when rejected.

Clause 13.—If, to eliminate unnecessary delay, a former member of the forces is taken on the strength of the department for training, by a Disabled Soldiers' Training Board, and his application is afterwards rejected, he shall be paid the allowances set forth in clause 11 hereof for the period he has been in training, except in cases where wilful misrepresentation has been discovered.

Training in an industry.

Clause 14.—When a former member of the forces has been found eligible for training, the department shall, at its discretion where it is considered desirable in the interests of the trainee so to do, and as far as the same may be practicable, place him for training in an industry under an agreement with the employer as to wages on an ascending scale, and the department shall pay the difference between the wages or other remuneration received by him in such industry and the allowances set forth in clause 11 hereof, provided that the total sum payable by the department to a trainee under this authority including any amounts he or his dependents may previously have received as training allowances under the authority of Order in Council P.C. 387, 1919, or any other Order in Council shall not exceed a total of eight times the monthly allowances which would be payable to him and his dependents under clause 11 hereof, were he undergoing training in one of the department's schools or otherwise; provided also that when a traineee receives from the firm or company under whom he is being trained in accordance with these

provisions a monthly wage or other remuneration equal to the monthly training allowances, his course shall be considered as completed and all payments by the department shall cease.

Vocational loans to trainees.

Clause 15.—(1) The department, at its discretion, may advance by way of loan to any former member of the forces who has received training on account of a disability attributable to service and who is in need of the same, a sum not exceeding $500 for the purchase of tools and equipment necessary to establish him in his new occupation, such loan to be repayable within five years from date of issue without interest.

Vocational loans for education.

(2) The department, at its discretion, may advance by way of loan to any former member of the forces who has been disabled and who is in need of the same, a sum not exceeding $500 to enable him to pursue any course of training or education which was substantially interrupted by war service, provided (*a*) that the disability from which the former member of the forces is suffering was of such a nature as to make such assistance necessary, (*b*) that he is not entitled to or has not taken training under the department, and (*c*) that he shall not be eligible for training subsequent to the granting of the loan; any such loan to be repayable within five years from date of issue without interest.

Discharges chattel mortgages. (P.C. 1297) (27-7-23)

(3) Authority is hereby granted to the Minister of Soldiers' Civil Re-establishment and/or the Deputy Minister of Soldiers' Civil Re-establishment to sign discharge or releases of chattel mortgages taken in favour of His Majesty by way of security for such loans.

Decision as to dependency.

Clause 16.—The decision whether or not a person is dependent upon a former member of the forces shall rest with the department and any allegation of dependency shall be corroborated by such evidence as may, from time to time be required by the department.

How treatment and training allowances payable.

Clause 17.—The allowances payable while he is undergoing treatment or training by the department for a former member of the forces, or for his wife, shall be paid direct to him or her, unless at the discretion of the department it is deemed advisable to pay such allowances or any part thereof at any time to such other person as the department may determine and the allowances payable while he is undergoing treatment or training by the department for the dependent or dependents of a former member of the forces other than his wife, or any part thereof at any time shall be paid to such a person as the department may determine.

Age limit of children.

Clause 18.—No allowance shall be paid under authority of this Order in Council for any child or brother or sister of any former member of the forces, who, if a boy is over the age of 16, or, if a girl is over the age of 17 years, provided, that if the child or brother or sister is unable owing to physical or mental infirmity to provide for its maintenance the allowances may be continued for as long as the circumstances of the case warrant payment by the department, provided also that no allowances shall be paid in respect of a child or brother or sister after the marriage of such child or brother or sister.

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* Amendment issued August 15, 1923.

Accidents to trainees.

Clause 19.—Former members of the forces undergoing training by the department shall, while in receipt of allowances from the department, be considered employees thereof and in case of injury shall be entitled to the full benefits of compensation provided by subsections 1 and 2 of section 1 of the "Act to provide compensation where employees of His Majesty are killed or suffer injury while performing their duty" (Statutes of Canada 1918, chapter 15), provided that the department shall be authorized to carry out such investigation as may be necessary to safeguard the interests of the Government in this regard, any compensation awarded may be paid by the department or by the Department of Finance.

Definititon "Called in"

(P.C. 1127) 26-6-23.

Clause 20.—(1) Whenever the term "Called in" appears in this clause it means an order or request issued by or under the authority of an administrative officer of the department or of the Board of Pension Commissioners to a pensioner or other former member of the forces to report at an institution or other place for examination, or for observation, or for repairs to or replacement of a prosthetic appliance, or for an interview.

Travelling and subsidence allowances.

(2) The following travelling and subsistence allowances may, except where otherwise indicated in the succeeding paragraphs of this clause, be granted to former members of the forces called in, to cover out-of-pocket expenses and loss of time from work. Return transportation first-class with sleeping berth if necessary and $5 per day of twenty-four hours for actual time occupied in travelling by the most direct route to and from and, except as provided in the succeeding paragraphs of this clause, for actual time detained in the town where institution or place of examination is situated, made up as follows:—

7 P.M. to 1 A.M.	$1.00
1 A.M. to 7 A.M.	1.00
7 A.M. to 1 P.M.	1.50
1 P.M. to 7 P.M.	1.50

Provided:

(*a*) that if sleeping berth has been furnished, the allowances shall be payable for the period between 7 a.m. and 7 p.m. only;

(*b*) that of subsistence (bed and maintenance) at an institution or other place is furnished the allowance shall be at the rate of $2 per day—reckoning from 7 a.m. to 7 p.m.;

(*c*) that, if subsistence is offered but the former member of the forces prefers to stay with friends, the allowance shall be at the rate of $3 per day of twenty-four hours;

(*d*) that if the time occupied in travelling by the most direct route is under twelve hours each way the allowances may, if it is necessary to detain the former member of the forces, be paid for a period of ten days, if between twelve and twenty-four hours for eleven days, if between twenty-four and thirty-six hours for twelve days, if between thirty-six and forty-eight hours, for thirteen days, and if over forty-eight hours for fourteen days;

(*e*) that if the institution or place of examination is in the same town as, or is within fifteen miles from the place of residence of the former member of the forces, and absence from home over-night is not required, out-of-pocket expenses only shall be paid unless the former member of the forces can produce a certificate from his employer that his wages have been stopped during his absence, in which case, his actual loss of wages plus out-of-pocket expenses shall be paid, or the amount set forth for the period between 7 a.m. and 7 p.m. whichever is the lesser, (if the former member of the forces is his own employer, he may sign the certificate himself but he shall not be paid for loss of wages unless the department is satisfied that he has sustained the loss for which claim is made);

(*f*) that these allowances shall be applicable in Canada only, unless otherwise determined by the department.

Pensioner called in for routine examination or on complaint.

(3 A pensioner who is called in for routine examination or a pensioner who is called in because a complaint regarding inadequacy of pension has been received from himself or through some other person, shall be entitled to receive the allowances set forth in paragraph (2) of this clause unless it is found that he requires medical treatment or a period of observation. If it is found that he requires treatment for his pensionable disability, he shall be paid the allowances set forth in paragraph (2) of this clause up to the time he is taken on strength by the department for treatment, after which he shall be paid the allowances set forth in clause 4 hereof. If it is found that he requires treatment for a disability not attributable to service, he shall not be entitled to treatment by he deptartment unless it is considered that the disability from which he is suffering is of such a nature as to retard his recovery from his pensionable disability or to increase his pensionable disability, in which case, he may at the discretion of the department be granted treatment with the allowances set forth in clause 4 hereof. If in the opinion of the medical examiner a period of observation in hospital in connection with his pensionable disability is desirable he shall be treated in the same manner as in the case where treatment is required for a pensionable disability.

Pensioner called in on complaint re non-pensionable disability.

(4) A pensioner who is called in because of a complaint in respect of a disability for which he is not in receipt of pension but which he considers to be attributable to service and for which treatment is requested, shall be entitled to receive.

(*a*) Return transportation first-class with sleeping berth if necessary.

(*b*) Meals in transit if necessary at $1 each.

(*c*) Payment of such other reasonable expenses as he may incur, not exceeding $2 per day, provided such expenses are authorized and approved by the department prior to being incurred.

If it is found that he requires treatment for a disability attributable to service, he shall be taken on strength by the department for treatment and shall be paid the allowances set forth in clause 4

hereof. If it is found that he requires treatment for a disability not attributable to service, he shall not be entitled to treatment by the department unless it is considered that the disability from which he is suffering is of such a nature as to retard his recovery from his pensionable disability or to increase his pensionable disability in which case, he may, in the discretion of the department be granted treatment with the allowances set forth in clause 4 hereof. If the diagnosis is uncertain or it is considered necessary that there should be a period of observation he may be placed in hospital and his pension shall be continued; after the expiry of fourteen days, if the pension is greater than the allowances as per clause 4 hereof an amount equal to the said allowances shall be substituted for pension, if the pension is less than the said allowances but greater than the special dependents' allowances as set forth in paragraph 13 of this clause pension shall be continued, if there are dependents and the pension is less than the special dependents' allowances as set forth in paragraph 13 of this clause the pension may from the fifteenth day be augmented to the amount of the said special dependents' allowances; provided that if at any time during the period of observation it is found that the disability is attributable to service the allowances set forth in clause 4 hereof shall be payable from the date of commencement of observation, there being deducted therefrom any payments of pension or other payments issued in respect of special dependents or other allowances.

Pensioner reporting without being called in.

(5) A pensioner who reports for examination in respect of pension without having been called in, shall not be entitled to any of the allowances set forth in this clause nor shall he be entitled to examination unless in the opinion of the department the holding of such examination would be to the advantage of the department.

Non-pensioner, etc., called in for observation re treatment.

(6) A former member of the forces who is not a pensioner who is called in for treatment, or for observation in respect of treatment, whether at the instance of the department, or on complaint shall be entitled to receive:

(*a*) Return transportation first-class with sleeping berth if necessary.

(*b*) Meals in transit if necessary at $1 each.

(*c*) Payment of such other reasonable expenses as he may incur, not exceeding $2 per day, provided such expenses are authorized and approved by the department prior to being incurred.

If it is found that he requires treatment for a disability attributable to service, he shall be taken on strength by the department for treatment and shall be paid the allowances set forth in clause 4 hereof. If it is found that he requires treatment for a disability not attributable to service, he shall not be entitled to treatment by the department. If the diagnosis is uncertain and it is considered necessary that there should be a period of observation, he may be placed in hospital but no allowances shall be paid until after the expiry of fourteen days, after which special dependents' allowances may be payable as set forth in paragraph (13) of this clause, until the case has been diagnosed, provided that if during the fourteen day period

or while in receipt of special dependents' allowances, or at any time it is found that the disability is attributable to service the allowances set forth in clause 4 hereof, shall be payable from the date of commencement of observation, there being deducted therefrom any payments made in respect of special dependents' allowances.

Non-pensioner reporting without being called in.

(7) A former member of the forces who is not a pensioner who reports for observation or treatment without being called in shall not be entitled to any allowances unless it is found that the disability from which he is suffering is attributable to service and that treatment for the same is required or that observation for diagnosis is required, when at the discretion of the department he may be given the same privileges as a former member of the forces who is called in for treatment or for observation in respect of treatment in accordance with paragraph (6) of this clause.

Men undergoing treatment or training or requiring orthopædic repairs, etc.

(8) A former member of the forces who is undergoing treatment or training in Canada, and is in receipt of allowances either under clause 4 or clause 11 hereof, who is directed by an officer of the department to report at an institution or other place for examination, or for treatment, or for repairs to or replacement of an artificial limb or other orthopædic appliance, or for an interview, shall, subject to clause 12 hereof continue to receive his allowances and he shall also be entitled to receive:—

Travelling expenses of man undergoing treatment or training.

(*a*) Transportation, first-class, with sleeping berth if necessary, between the points of movement.

(*b*) Meals in transit, if necessary, at $1 each.

(*c*) Payment of any other reasonable expenses, which he may incur, not exceeding $2 per day, provided such expenses are authorized and approved by an officer of the department prior to their being incurred.

(9) A former member of the forces who has undergone treatment or training and has completed his treatment or training and is returning to his home or customary place of residence, shall be entitled to receive:

Travelling expenses returning home after treatment or training.

(*a*) Transportation, first-class, with sleeping berth if necessary, to the point from which he reported for treatment or training.

(*b*) Meals in transit, if necessary, at $1 each.

(*c*) Payment of such other reasonable expenses which he may incur, not exceeding $2 per day, provided such expenses are authorized and approved by an officer of the department prior to their being incurred.

Called in for repairs, etc., to orthopædic appliances.

(10) A former member of the forces who is called in for repairs to or replacement of an artificial limb or other orthopædic appliance may be granted the allowances set forth in paragraph (2) of this clause, provided that if at the expiry of the period referred to in subparagraph (*d*) of that paragraph it is found necessary by the department to retain him for a longer period, he shall be paid the allowances set forth in clause 4 hereof in respect of such longer period, provided also that no travelling and subsistence allowances shall be paid and no reimbursement of expenses incurred shall be made in respect of

repairs required to orthopædic boots or in respect of repairs required to any major or minor orthopædic appliances which could be forwarded to the department by mail or express.

Called in re vocational training.

(11) A former member of the forces who is called in for an interview in respect of vocational training may be paid the allowances set forth in paragraph (2) of this clause.

Travelling allowances outside of Canada.

(12) When a former member of the forces is not resident in Canada, he shall be paid such travelling and out-of-pocket expenses for the services covered by this clause as the department may at its discretion from time to time determine, provided that where possible, the amount payable and the conditions of payment shall be those prevailing between the Government of the country in which the former member of the forces is residing and the former members of the forces of the said country.

Special dependents allowances.

(13) The following special dependents' allowances shall be payable in cases where authority in this respect is contained in this Order in Council:—

Married man or man with one dependent	$1.32	per	day
first child or second dependent	.49	"	"
second child or third dependent	.39	"	"
third child or fourth dependent	.33	"	"
Maximum payable	2.53	"	"

Provided that the foregoing allowances shall be payable for one calendar month only unless a longer period of treatment has been authorized by the Director of Medical Services, provided also that in order to continue payment of the allowances it shall be necessary to receive a further authorization from the Director of Medical Services at the expiry of each calendar month of treatment.

Power to make regulations regarding administration discipline, deductions and overpayments.

(P.C. 1127) 26-6-23.

Clause 21.—The department shall have power to make regulations respecting the administration and discipline of, and allowances payable to, a former member of the forces while undergoing treatment or training by the department and the allowances payable to or in respect of his dependent or dependents and all deductions from or cancellations of such allowances for the purpose of discipline, or recovery of overpayments of allowances or pension, or for any other purpose and to require that before becoming entitled to treatment or training by the department a former member of the forces shall sign a document agreeing while undergoing treatment or training to submit to all such regulations.

Agreements with other countries re treatment and training in Canada.

Clause 22.—The departments may enter into agreements with the British Government or with the governments of any of His Majesty's Dominions, for the treatment and training of former members of the Imperial or Dominion forces, who have been retired or discharged therefrom and who may now or hereafter be resident in Canada or the United States of America whether they were pre-war residents of Canada or not, and may render accounts for the cost of such treatment and training, and if authorized by the said Governments so to do, may, at the expense of the said Governments pay to such persons and their dependents during the period of such treat-

ment or training, the allowances payable to former members of the forces as herein provided or such other allowances as may be agreed upon by the said Governments, and the department may, with the approval of the Governor General in Council, enter into similar agreements with the Governments of His Majesty's allies or associates in the late war in respect of former members of the Allied forces.

Agreements with other countries re treatment and training outside of Canada.

Clause 23.—The department way enter into agreements with the British Governments of any of His Majesty's Dominions for the treatment and training of former members of the forces who have been retired or discharged therefrom and who may now or hereafter be stationed or resident outside of Canada and may pay the cost of such treatment or training, and may, subject to such arrangements pay to such persons and their dependents during the period of such treatment or training, the allowances set forth herein, or such other allowances as may be agreed upon between the parties to any agreement entered into, and the department may, with the approval of the Governor General in Council, enter into similar agreements with the Governments of His Majesty's Allies or associates in the late war.

Agreements with other countries re treatment and training of Imperial and other forces outside of Canada.

Clause 24.—The department may, on request from the British Government or the Governments of any of His Majesty's Dominions or allies or associates in the late war, arrange for the treatment or training, in the United States of America or any other country, of any persons who served in the Imperial, Dominion, or Allied forces, and, on behalf and at the expense of the said Governments, may pay the cost of such treatment or training, and, on behalf and at the expense of the said Governments may pay to such persons and their dependents during the period of such treatment or training such allowances as may be agreed upon between the parties to any agreement entered into or understanding reached.

Departmental and B.P.C. decisions final.

Clause 25.—In any matters which are left to the discretion of the department, the decision of the department shall be final, and in any matters which are left to the discretion of the Board of Pension Commissioners for Canada the decision of the said board shall be final.

To whom Order in Council does not apply.

Clause 26.—The provisions of this Order in Council shall not, unless the department otherwise directs, extend and apply to any former member of the forces or former member of the Imperial, Allied or Dominion forces who:—

(*a*) Has been cashiered or dismissed the service by sentence of court-martial;

(*b*) has been deprived of his commission or warrant by reason of misconduct;

(*c*) has been called upon to retire or to resign his commission or warrant by reason of misconduct;

(*d*) has been discharged having been sentenced to be discharged with ignominy, or in the naval forces with or without disgrace;

(*e*) has been discharged having been sentenced to penal servitude or having been sentenced by court-martial to imprisonment for two years or more;

(*f*) has been discharged during his service having been convicted by the civil power of an offence punishable by imprisonment for more than two years committed either before or after enlistment; or

(g) has been discharged for misconduct.

Date Order in Council operative.

Clause 27.—His Excellency the Governor General in Council is further pleased to order that the provisions of this Order in Council shall be operative from the first day of April, 1922.

(Sgd.) RODOLPHE BOUDREAU,
Clerk of the Privy Council.

SCHEDULE A

PAY AND ALLOWANCES FOR FORMER MEMBERS OF THE FORCES WHO ARE ON THE STRENGTH OF THE DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT FOR MEDICAL TREATMENT

—	All ranks below sergeant (Mil.) and petty officers (Naval)			Sergeants (Military) Petty Officers and equivalent ratings (Naval)			Squadron Batt. or Coy. Q.M. Sergeant (Mil.)			Squad. Batt. Co. Sgt. Maj., Col. Sgt., Staff Sgt., Q.M. Sgt. (without warrant) (mil.)—Chief Petty Off. and equiv. ratings (naval)			Q.M. Sergeant (W.O. Class 2) (Military)			Sgt. Maj. (without Warrant) Military Naval Cadet Midshipman (Naval)			Sgt. Maj. (Warrant Officer Class I.) (Military) Warrant Officer (Naval)			Lieut. (Military) Sub-Lieutenant (Naval)			Capt. (Military) Lieutenant (Naval)			Major (Military) Lieutenant-Commander (Naval)			Lieut.-Colonel (Mil.) Commander; Captain under 3 years (Naval) and all ranks above			Colonel (Military) Captain over 3 years (Naval)			Brig.-Gen. (Comdg. Brigade) (Military) Commodore (Naval)			Maj. Gen. (Comdg. Division) (Military) Rear Admiral (Naval)		
	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
IN-PATIENT																																								
Single man	1 48		1 48	1 73		1 73	1 93		1 93	2 03		2 03	2 23		2 23	2 28		2 28	2 53		2 53	3 19		3 19	4 00		4 00	5 00		5 00	6 25		6 25	7 50		7 50	14 14		14 14	22 03		22 03
Married man—wife only	0 65	2 18	2 83	0 65	2 37	3 02	0 65	2 57	3 22	0 65	2 67	3 32	0 65	2 87	3 52	0 65	2 92	3 57	0 65	3 33	3 98	0 65	3 85	4 50	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" wife and 1 child	0 65	2 47	3 12	0 65	2 67	3 32	0 65	2 87	3 52	0 65	2 97	3 62	0 65	3 16	3 81	0 65	3 21	3 86	0 65	3 62	4 27	0 65	3 85	4 50	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 2 child	0 65	2 77	3 42	0 65	2 90	3 55	0 65	3 10	3 75	0 65	3 20	3 85	0 65	3 39	4 04	0 65	3 44	4 09	0 65	3 85	4 50	0 65	3 85	4 50	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 3 "	0 65	3 03	3 68	0 65	3 07	3 72	0 65	3 26	3 91	0 65	3 36	4 01	0 65	3 56	4 21	0 65	3 61	4 26	0 65	4 02	4 67	0 65	4 02	4 67	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 4 "	0 65	3 30	3 95	0 65	3 30	3 95	0 65	3 43	4 08	0 65	3 53	4 18	0 65	3 72	4 37	0 65	3 77	4 42	0 65	4 18	4 83	0 65	4 18	4 83	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 5 "	0 65	3 56	4 21	0 65	3 56	4 21	0 65	3 59	4 24	0 65	3 69	4 34	0 65	3 89	4 54	0 65	3 94	4 59	0 65	4 35	5 00	0 65	4 35	5 00	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 6 "	0 65	3 85	4 50	0 65	3 85	4 50	0 65	3 85	4 50	0 65	3 85	4 50	0 65	4 02	4 67	0 65	4 07	4 72	0 65	4 48	5 13	0 65	4 48	5 13	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
Man with dependent or dependents:—																																									
" 1 dependent	0 65	1 82	2 47	0 65	2 01	2 66	0 65	2 21	2 86	0 65	2 31	2 96	0 65	2 51	3 16	0 65	2 56	3 21	0 65	2 97	3 62	0 65	3 20	3 85	0 65	3 95	4 60														
" 2 dependents	0 65	2 11	2 76	0 65	2 24	2 89	0 65	2 44	3 09	0 65	2 54	3 19	0 65	2 74	3 39	0 65	2 79	3 44	0 65	3 20	3 85	0 65	3 20	3 85	0 65	3 95	4 60														
" 3 dependents	0 65	2 37	3 02	0 65	2 41	3 06	0 65	2 60	3 25	0 65	2 70	3 35	0 65	2 90	3 55	0 65	2 95	3 60	0 65	3 36	4 01	0 65	3 36	4 01	0 65	3 95	4 60														
" 4 dependents	0 65	2 64	3 29	0 65	2 64	3 29	0 65	2 77	3 42	0 65	2 87	3 52	0 65	3 07	3 72	0 65	3 11	3 76	0 65	3 53	4 18	0 65	3 53	4 18	0 65	3 95	4 60														
" 5 dependents	0 65	2 90	3 55	0 65	2 90	3 55	0 65	2 93	3 58	0 65	3 03	3 68	0 65	3 23	3 88	0 65	3 28	3 93	0 65	3 69	4 34	0 65	3 69	4 34	0 65	3 95	4 60														
" 6 dependents	0 65	3 20	3 85	0 65	3 20	3 85	0 65	3 20	3 85	0 65	3 20	3 85	0 65	3 36	4 01	0 65	3 41	4 06	0 65	3 82	4 47	0 65	3 82	4 47	0 65	3 95	4 60														
Single man with 1 partial dependent	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97																				
" 2 or more partial dependents	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30																				
OUT-PATIENT CLASS 1																																								
Single man	2 47		2 47	2 53		2 53	2 73		2 73	2 83		2 83	3 03		3 03	3 08		3 08	3 33		3 33	4 70		4 70	5 70		5 70	6 70		6 70	7 95		7 95	9 20		9 20	15 78		15 78	23 67		23 67
Married man—wife only	0 65	2 77	3 42	0 65	3 16	3 81	0 65	3 36	4 01	0 65	3 46	4 11	0 65	3 66	4 31	0 65	3 71	4 36	0 65	4 12	4 77	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" wife and 1 child	0 65	3 13	3 78	0 65	3 46	4 11	0 65	3 66	4 31	0 65	3 76	4 41	0 65	3 95	4 60	0 65	4 00	4 65	0 65	4 41	5 06	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" " and 2 child	0 65	3 53	4 18	0 65	3 69	4 34	0 65	3 89	4 54	0 65	3 99	4 64	0 65	4 18	4 83	0 65	4 23	4 88	0 65	4 64	5 29	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" " and 3 "	0 65	3 85	4 50	0 65	3 85	4 50	0 65	4 05	4 70	0 65	4 15	4 80	0 65	4 35	5 00	0 65	4 40	5 05	0 65	4 81	5 46	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" " and 4 "	0 65	4 18	4 83	0 65	4 18	4 83	0 65	4 22	4 87	0 65	4 31	4 96	0 65	4 51	5 16	0 65	4 56	5 21	0 65	4 97	5 62	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" " and 5 "	0 65	4 51	5 16	0 65	4 51	5 16	0 65	4 51	5 16	0 65	4 51	5 16	0 65	4 68	5 33	0 65	4 73	5 38	0 65	5 14	5 79	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" " and 6 "	0 65	4 84	5 49	0 65	4 84	5 49	0 65	4 84	5 49	0 65	4 84	5 49	0 65	4 84	5 49	0 65	4 84	5 49	0 65	5 27	5 92	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
Man with dependent or dependents:—																																									
" 1 dependent	1 25	1 81	3 06	1 40	1 99	3 39	1 45	2 20	3 65	1 45	2 30	3 75	1 45	2 50	3 95	1 45	2 54	3 99	1 45	2 96	4 41																				
" 2 dependents	1 30	2 12	3 42	1 40	2 22	3 62	1 45	2 43	3 88	1 45	2 53	3 98	1 45	2 73	4 18	1 45	2 77	4 22	1 45	3 19	4 64																				
" 3 "	1 40	2 38	3 78	1 45	2 40	3 85	1 45	2 59	4 04	1 45	2 69	4 14	1 45	2 89	4 34	1 45	2 94	4 39	1 45	3 35	4 80																				
" 4 "	1 50	2 61	4 11	1 50	2 68	4 18	1 50	2 71	4 21	1 50	2 81	4 31	1 50	3 00	4 50	1 50	3 05	4 55	1 50	3 46	4 96																				
" 5 "	1 55	2 89	4 44	1 55	2 95	4 50	1 55	2 95	4 50	1 55	2 95	4 50	1 55	3 12	4 67	1 55	3 17	4 72	1 55	3 58	5 13																				
" 6 "	1 60	3 17	4 77	1 60	3 23	4 83	1 60	3 23	4 83	1 60	3 23	4 83	1 60	3 23	4 83	1 60	3 23	4 83	1 60	3 66	5 26																				
Single man with 1 partial dependent	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79																				
Single man with 2 or more partial dependents	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12																				

APPENDIX II

Order in Council P.C. 1808 dated the 12th September, 1923. Authority under which the Department may give treatment to Fenian Raid or Northwest Rebellion pensioners and may issue allowances in connection therewith.

Whereas the Minister of Soldiers' Civil Re-establishment reports that under an Order in Council dated the 21st day of August, 1866, provision was made for the granting of pension,—

> "To the Militiamen wounded or disabled or who may be hereafter wounded or disabled in encountering any hostile invasions of Canada, and to the widows and children of those who have been killed in battle or lost their lives from actual service in the field."

And whereas by a further Order in Council, dated the 8th July, 1885, the provisions of the Order in Council of the 21st August, 1866, were extended and enlarged.

And whereas by section 47 (*b*) of the Pension Act as enacted by chapter 62 of the Statutes of 1920, it is provided that,—

> "The pensions which are now being paid to or in respect of members of those forces who served in the Fenian Raid or Northwest Rebellion, during the continuance of the residence in Canada of the recipients of such pensions, shall hereafter be increased to the rates set forth in schedules A and B to this Act."

And whereas, while provision has been made for the granting of pension, no similar provision has been enacted whereby any man who served in the Fenian Rails or the Northwest Rebellion, though pensioned, can receive medical treatment at the expense of the Government of Canada, and it is considered that provision should be made to grant treatment to any Fenian Raid or Northwest Rebellion pensioner, should he require it. The number of pensioners is now less one hundred.

Therefore His Excellency the Governor General in Council, on the recommendation of the Minister of Soldiers' Civil Re-establishment, is pleased to order that the provisions of Order in Council P.C. 580, dated the 10th March, 1922, and amendments thereto shall be and the same are hereby extended so as to include any Fenian Raid or Northwest Rebellion pensioner who may be in need of medical treatment, the cost of such treatment and any allowances issued to be charged to the parliamentary votes for treatment and allowances of former members of the Canadian Expeditionary Force.

(Sgd.) G. G. KEZAR,
Assistant Clerk of the Privy Council.

REPORT

OF THE

DEPARTMENT OF HEALTH

FOR THE

FISCAL YEAR ENDED MARCH 31, 1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1923

[No. 19—1924]

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to submit, herewith, for the information of Your Excellency and the Parliament of Canada the Annual Report of the Department of Health, being for the year ended March 31, 1923.

I have the honour to be, sir,

Your Excellency's most obedient servant,

H. S. BÉLAND,
Minister of Health.

OTTAWA, September 15, 1923.

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REPORT

OF THE

DEPARTMENT OF HEALTH

FOR THE FISCAL YEAR ENDED MARCH 31, 1923

OTTAWA, September 1, 1923.

Honourable H. S. BÉLAND, M.D.,
Minister of Health,
Ottawa.

SIR,—I have the honour to report on the Department of Health for the year ended March 31, 1923, under the following headings:—

1. Quarantine Service.
2. Immigration Medical Service.
3. Marine Hospitals Service.
4. Venereal Disease Control.
5. Housing, with Hospitalization and Sanitation.
6. Opium and Narcotic Drugs.
7. Proprietary or Patent Medicines.
8. Child Welfare.
9. Food and Drug Laboratories.
10. Public Works Health Act.
11. Financial Statement.

J. A. AMYOT,
Deputy Minister of Health.

(1) QUARANTINE SERVICE

Organized Quarantine Stations were kept in operation at Charlottetown, P.E.I.; Chatham, N.B. (Middle Island); Halifax, N.S. (Lawlor's Island); Louisburg, N.S.; North Sydney, N.S.; Quebec, Que. (Grosse Isle); St. John, N.B. (Partridge Island); and Victoria, B.C. (William Head).

The total number of vessels which reported at the various stations was 1,897 and the number of persons inspected 289,292, made up as follows:—

Passengers	1st class	21,032	
	2nd class	41,467	
	Steerage	74,508	
			137,007
Crews			151,828
Cattlemen			266
Stowaways			149
Distressed seamen			42
Total			289,292

DISTRIBUTION OF VESSELS INSPECTED

Stations	Vessels
Charlottetown, P.E.I.	3
Chatham, N.B.	11
Halifax, N.S.	305
Louisburg, N.S.	15
North Sydney, N.S.	106
Quebec, Que.	903
St. John, N.B.	269
Victoria, B.C.	285
Total	1,897

DISTRIBUTION OF PERSONNEL INSPECTED

—	Charlottetown	Chatham	Halifax	Louisburg	North Sydney	Quebec	St. John	Victoria	Total
Passengers									
1st class	.....	.....	6,507	.....	9	5,529	1,501	7,486	21,032
2nd class	.....	.....	2,365	.....	.....	31,766	4,098	3,238	41,467
Steerage	.....	.....	13,987	.....	.....	32,837	12,716	14,968	74,508
	.....	.....	22,859	.....	9	70,132	18,315	25,692	137,007
Crews	49	247	23,178	522	3,299	71,438	18,326	34,769	151,828
Cattlemen	.....	.....	.....	.....	.....	254	12	.....	266
Stowaways	.....	.....	30	3	5	91	20	.....	149
Distressed seamen	.....	.....	38	.....	.....	.....	4	.....	42
Total	49	247	46,105	525	3,313	141,915	36,677	60,461	289,292

The total number of persons admitted to the quarantine hospitals and detention buildings was 638, distributed as follows:—

Halifax, N.S.	49
Quebec, Que.	439
St. John, N.B.	74
Victoria, B.C.	76
Total	638

Of these 638 persons, 128 were actually sick; the balance of 510 was made up of contacts and persons accompanying the sick, including 331 detained as possible smallpox contacts. Tabulated statements follow showing the distribution by stations of hospital cases, etc., also their classification by disease.

The total number of days in hospital and detention buildings was 6,075, viz., 1,894 for the sick and 4,181 for the contacts, etc.

DISTRIBUTION OF HOSPITAL CASES

Stations	Sick	Hospital days	Contacts and persons accompanying sick	Hospital days	Persons detained for observation including smallpox contacts	Hospital days	Total persons detained	Total hospital days
Halifax	15	301	6	89	28	168	49	558
Quebec	86	1,170	134	1,439	219	1,457	439	4,066
St. John	20	303	31	391	23	69	74	763
Victoria	7	120	8	109	61	459	76	688
Total	128	1,894	179	2,028	331	2,153	638	6,075

CLASSIFICATION OF HOSPITAL CASES BY DISEASES

Diseases	Sick	Hospital days	Contacts etc.	Hospital Days	Total persons detained	Total hospital days
Acute cold*	1	7	3	21	4	28
Adenitis	1	6	.....	.....	1	6
Bronchitis*	5	58	1	16	6	74
Broncho-pneumonia	1	20	2	40	3	60
Chronic constipation.*	1	15	2	30	3	45
Chickenpox	8	91	13	135	21	226
Dermatitis*	2	14	2	14	4	28
Dental abscesses*	1	5	5	25	6	30
Diphtheria	8	94	15	197	23	291
Erysipelas	1	6	1	6	2	12
Erythema simplex*	1	5	2	10	3	15
German measles	3	25	7	70	10	95
Gastro-intestinal disorder*	1	8	1	8	2	16
Influenza	1	13	5	65	6	78
Intestinal toxemia*	2	8	4	16	6	24
Measles	59	902	81	1,007	140	1,909
Mumps	3	28	4	30	7	58
Observation—Smallpox contacts	.....	.....	331	2,153	331	2,153
Pharyngitis*	1	5	.....	.....	1	5
Pneumonia*	1	3	.....	.....	1	3
Pyrexia (unknown origin)	1	2	3	6	4	8
Round worms*	1	8	5	40	6	48
Relapsing fever*	3	159	.....	.....	3	159
Scabies	4	120	2	60	6	180
Scarlet fever	9	206	8	122	17	328
Smallpox	2	31	3	38	5	69
Teething rash*	1	6	6	36	7	42
Tonsilitis*	5	44	4	36	9	80
Urticaria*	1	5	.....	.....	1	5
Totals	128	1,894	510	4,181	638	6,075

*These cases were landed at Quarantine for observation on account of pyrexia, indicating possible infectious disease. Conditions were later diagnosed as stated.

One thousand seven hundred and seventy-two persons were vaccinated in accordance with the Quarantine Regulations, as follows:—

Quebec (Grosse Isle)	1,024
Halifax (Lawlor's Island)	28
St. John (Partridge Island)	49
Victoria (William Head)	671
Total	1,772

Notwithstanding serious epidemics of infectious diseases in countries of Europe and the Orient from which a large percentage of the passenger traffic to Canada originated, the graver quarantinable diseases were met with in but two instances, viz., one case of smallpox at Quebec, and one at William Head. These are referred to in detail in the respective reports of the medical superintendent of these stations.

Grosse Isle, Quebec.—Dr. G. E. Martineau, Medical Superintendent of the St. Lawrence Quarantine Service, writes as follows:—

"There were 903 steamers cleared at the station during the last navigation season (1922), being 201 more than the preceding season, an increase of about 29 per cent. The average number of steamers cleared per season during the past 21 years was 392, so that this season's work is about 130 per cent more than the average. Of the 903 vessels inspected, 155 or 17 per cent were passenger steamers. The total number of persons examined was 141,915 an increase of 5,887 over last year. So far as passengers are concerned, however, as distinct

from crews, while there was an increase of 41 in the number of passenger ships inspected over last season, there was an actual decrease in the number of passengers examined of 9,727 as compared with 1921.

"Sick were landed at the Quarantine Station on forty (40) different occasions. In four instances, on the ss. *Andania*, *Tunisian*, *Canada*, and *Empress of Britain*, third-class passengers who had refused vaccination during the voyage were vaccinated at quarantine.

"The ss. *Lake Winthrop*, with crew of 33, arriving here June 21, with an unclean bill of health from La Romana, West Indies, was held for three days to complete the period of incubation of variola (smallpox) which was epidemic at her sailing port. The captain claimed that his crew had been vaccinated before embarkation, on June 8, but no evidence being apparent of the vaccine having taken, they were revaccinated at quarantine and kept under observation as above stated.

"The ss. *Penrhydd*, from Dakes, West Africa arrived at the station on October 3 with one death from and three cases of pneumonia among his crew of 31. As this appeared to be a complication of either influenza or bubonic plague, the vessel was held pending a diagnosis through bacteriological examination, which revealed the presence in throat swabs of small bacilli having the form and dimensions of B. Pfeiffer. The steamer was then thoroughly fumigated and the crew disinfected and kept under observation for four days, at the expiration of which they were released, no new cases having developed in the interval. The three cases admitted to hospital turned into relapsing fever, and it was not before November 24 that they could be discharged.

"On November 18, the ss. *Montclair* from Liverpool, with 221 cabin, 492 steerage passengers, and 269 crew arrived at quarantine with one case of variola (smallpox) among the cabin passengers. The patient and two immediate contacts were admitted to hospital for treatment and observation, while the other 218 passengers and 47 members of crew of the same section were landed for quarantine and observation at the western end of the island. The apartment occupied by the patient having been disinfected, the remaining 222 crew and steerage passengers were all vaccinated and allowed to proceed with the vessel after a detention of 31 hours. No new cases developed among the persons detained under observation, who were released in groups as soon as vaccination was successful or immunity reaction manifested itself; the last group, including the patient, who recovered promptly, being discharged on December 2.

"There were 220 persons admitted to the hospital during the season, which is 222 admissions and 1,947 hospital days less than last year. Of these 220 admissions, 86 were patients and 134 were contact or persons accompanying the sick.

"With regard to nationality they were divided as under:—

Canadian	8	Serbian	2
British	128	Swedish	1
French	1	Norwegian	1
Italian	2	Hungarian	1
Polish	57	Japanese	1
Russian	7	Finnish	1
Roumanian	5	Portuguese	1
Syrian	4		

"Four cases of measles and one of mumps developed among the contacts landed. Of the measles cases, three developed seven days and one twelve hours after admission. Two were disinfected and isolated on admission; the other two were not isolated, being an infant of tender years and its mother. The secondary case of mumps developed one day after landing and had been disinfected and isolated on admission.

"Six deaths occurred at the hospital during the season, namely, one from pneumonia, one from scarlet fever; and four boys detained on account of mumps, momentarily escaped from hospital grounds and drowned themselves accidentally in the bay east of hospital. The scarlet fever and pneumonia patients died one and two days respectively after landing.

"The bodies of two members of crew who had died shortly before reaching the station of pneumonia, and pneumonia and shock following extensive scalds, respectively, were landed for burial in the Quarantine cemetery.

"Sixty-four chemical and bacteriological examinations were performed at the laboratory as follows:—

Throat and nose swabs	17
Water	26
Blood	10
Urine	8
Sputum	3
Total	64

"During the season 1,181 persons were vaccinated in accordance with the Quarantine Regulations, viz:—

Passengers on board vessels	755
Passengers at station	269
Staff at station	157
Total	1,181

"The quarantine boat *Polana* which was used as an inspecting boat at the station since June, 1911, was transferred to the Department of Marine and Fisheries, December 31, 1922, on account of the inspection of vessels being made henceforth at Father Point instead of Grosse Isle."

Lawlor's Island, Halifax, N.S.—Dr. Judson V. Graham, the Acting Quarantine Officer, reports as follows:—

"Inspection was made of 305 vessels, carrying 23,178 crew, 6,507 cabin passengers, 2,365 intermediate passengers, 13,987 steerage passengers, 30 stowaways and 38 distressed seamen. These vessels reported 9 deaths and 1 birth at sea.

"The following quarantinable diseases were reported on ships arriving at this port: measles, 11; scarlet fever, 4; diptheria, 5; mumps, 3.

"The following non-quarantinable diseases were reported: tonsilitis, 6; syphilis, 1; bronchitis, 10; diarrhœa (without fever), 6; malaria, 1; pneumonia, 1; biliary colic, 1.

"The following were taken to the quarantine hospital: measles, 8 cases, with two members of families accompanying; scarlet fever, 4, with two members of families accompanying; diphtheria, 3, with two members of families accompanying.

"No sickness developed among those accompanying the cases to the hospitals, neither were there any secondary cases of infection among the patients nor any deaths.

"Of the quarantinable diseases reported above, the following were destined to the United States: measles, 3; diptheria, 2; mumps, 3. Isolation and care being satisfactory they were permitted to remain on board.

"On April 26, 1922, the ss. *Lituania* arrived at quarantine. During the inspection of the passengers a female third-class passenger bound for United States was found with a vesicular rash all over her body, very suggestive of early smallpox. Dr. Gouthro, Immigration Medical Officer of the department, and Dr. Jost, of the Nova Scotia Department of Public Health, saw the case in consultation and expressed the opinion that the rash was very suggestive of

smallpox. However, no positive diagnosis could be arrived at. The ship's owners held the ship in port until the following day, pending the permission of the United States Public Health Service for her to proceed to New York. On receipt of this permission the passengers destined to Halifax were disembarked into quarantine and the ship sailed for New York with the sick passenger on board, as allowed under Quarantine Regulations, paragraph No. 20.

"The passengers landed, to the number of 28, were detained at the Rockhead Hospital where they were all vaccinated (positive reaction in each case), bathed, and their clothing and effects disinfected. They were released May 2, following receipt of telegraphic advice from New York that the case was diagnosed definitely as not smallpox.

"During the past winter the ice conditions in the Halifax harbour have been unusually severe. The ss. *Minoca* succeeded in keeping the passage to Lawlor's Island open until February 5, when she lost all the blades of her propeller by striking floating ice with it. She was assisted back to her dock by the *C.G.S.S. Nelson* and a local tow-boat.

"Owing to the same ice conditions the *Minoca* was unable to get on the marine railway until February 23, and repairs were finally completed March 27. During the time the *Minoca* was out of commission any boat that was available was made use of in visiting vessels in quarantine.

"The Marine Department sent their ice-breaker at various times during the winter to open up the passage to Lawlor's Island, but the weather was so severe that the floating ice would freeze solid over-night. This ice was so heavy and the cakes so large that it was not safe for the *Minoca* to attempt to keep the passage open at night. In spite of the efforts of the Marine Department's ice-breaker and the *Minoca* the passage was not finally opened to remain open, until April 3.

"On account of the passage to Lawlor's Island being closed by ice, it was necessary to make use of Rockhead hospital on two occasions, passengers being admitted there from the ss. *Pittsburg,* February 24, and from the ss. *Andania,* March 13, in both cases affected with measles.

"The only passengers vaccinated at this station during the year were the 28 detained ex. the ss. *Lituania.*

"In February, 1923, all members of the staff and the families of those resident at the station not successfully vaccinated the preceding year, together with the new members of the staff, were revaccinated, all showing positive reactions."

Partridge Island, St. John, N.B.—Dr. R. T. Rutherford, the Quarantine Officer, in his report states as follows:—

"The Norwegian steamship *Tune* arrived from San Pedro de Macoria, Dutch West Indies, on June 2, 1922, at which time that port was reported to be suffering from an epidemic of smallpox. The crew numbering 23 were brought to the Quarantine Hospital and detained for observation and vaccination until such time as we had a positive vaccination or an immune reaction.

"On February 5, 1923, we admitted ex. ss. *Melita* four cases of scabies together with two contacts, there being at the time no available accommodation in the Immigration Hospital at St. John. On February 11, one of these developed measles, which must have been the result of exposure prior to landing and even perhaps prior to embarkation. On February 19, one of the contacts developed measles, and on February 24, one other of the scabies cases developed measles. The exposure leading to these cases of measles must have occurred several days before their arrival at this port.

"No deaths were reported during the year, and no cases of cross-infection.

William Head, Victoria, B.C.—Dr. C. P. Brown was appointed medical superintendent in June, 1922, following the retirement of Dr. Nelson. The

detention buildings now have sleeping accommodation for 694 persons, and the hospital will at present accommodate about 17 patients. Minor infectious diseases arriving at quarantine are now by arrangement sent to the Provincial Royal Jubilee Hospital, Victoria.

An officer of the Customs Department has quarters at the station, and uses the launch *Evelyn* for patrol work as needed. Dr. Brown furnishes the following details regarding the case of smallpox landed during the year:—

"In June, 1922, the ss. *Empress of Canada* arrived at quarantine with one case of smallpox on board. Those of the saloon passengers who could show evidence of recent vaccination were allowed to proceed; others in this class were detained. Remainder of the crew and passengers without similar vaccination were vaccinated, after which they were allowed to proceed. The patient and immediate contact were placed in hospital. The ship's quarters were disinfected and the vessel released."

(2) IMMIGRATION MEDICAL SERVICE

Immigrant and non-immigrant passengers to the number of 66,480 were examined by officers of the Immigration Medical Service at the Atlantic and Pacific ports for the purpose of detecting physical or mental diseases or defects, in accordance with the provisions of the Immigration Act. This number compared with 63,990 for the previous year, shows an increase of 2,490.

Immigrant passengers who on arrival at Canadian ocean ports required medical or surgical treatment, were removed to hospital to the number of 152. These were subsequently released as cured or fit to travel, except where otherwise noted in the following tabulated statement:—

IMMIGRANTS DETAINED IN HOSPITAL FOR MEDICAL OR SURGICAL TREATMENT

Diagnosis	Quebec	Halifax	St. John	Vancouver	Victoria
Abdominal N.Y.D.			1		
Abscess	3				
Alcoholism				1*	
Anaemia				1	
Appendicitis			1		
Bronchitis		1			
Childbirth	2				
Conjunctivitis	3	2	2	15	4
Dental periosteitis	1				
Dermatitis	1				
Eczema	1				
Furunculosis	2		1		
Epileptiform seizures				1	
Gastro-intestinal infection	1*				
Herpes				1	
Hookworm				1	
Impetigo	5	2	2		
Infected hip	1				
Iritis				1	
Menorrhagia	1	1			
Nephritis				1	
Phlebitis	1				
Pneumonia			3	1*	
Post-dysentery			1		
Pyrexia			2		
Scabies	7		1	2	66
Sepsis			2		
Sycosis		1			
Tonsilitis	2				
Toothache	1				
Ulcer of leg	1				
Vaccination infection	1				
Totals	34	7	16	25	70

* Died.

Of the immigrant passengers detained at the immigration hospitals at the respective ports for a more detailed medical examination than could be afforded during line inspection, the diagnoses of the following were found to be negative and they were immediately released by the medical officrs:—

IMMIGRANTS DETAINED FOR INTENSIVE MEDICAL EXAMINATION—SUBSEQUENTLY RELEASED AS "NEGATIVE."

Detained for	Quebec	Halifax	St. John	Totals
General observation	5	2	5	12
Mental observation	6	2	3	11
Observation of eyes	5	.....	2	7
Observation of heart	.....	1	.....	1
Observation of nails	10	1	6	17
Observation of scalp	10	3	2	15
Observation of skin	1	.....	2	3
Observation of throat	1	.....	.....	1
Totals	38	9	20	67

In addition to those "certified", immigrants to the number of 661 were found to have physical or mental defects of a minor character not serious enough to bring them within the "prohibited classes" set out in section 3 of the Immigration Act. These persons were released by the medical officers after a note of their condition had been entered on individual record cards and filed for possible future reference.

IMMIGRANTS NOTED AS HAVING MINOR MENTAL OR PHYSICAL DEFECTS

Quebec	425
Halifax	159
St. John	77
Total	661

IMMIGRANTS "CERTIFIED" BY MEDICAL OFFICERS UNDER SECTION 3 OF THE IMMIGRATION ACT

SUBSECTIONS (a) AND (k)—MENTALLY DEFECTIVE

Disability	Quebec	Halifax	St. John
Subsection (a)—			
Epileptics	2	.....	1
Feeble-minded	1	1	1
Imbeciles	2	.....	.....
Insane	3	2	1
Subsection (k)—			
Constitutional psychopathic inferiority	2	2	3
Totals	10	5	6

SUBSECTION (b)—PERSONS AFFLICTED WITH LOATHSOME OR CONTAGIOUS DISEASE

Disease	Quebec	Montreal	Halifax	St. John	Vancouv'r	Victoria
Favus of nails	6	.....	.....	4	.....	.....
Gonorrhœa	1	.....	.....	.....	.....	.....
Psoriasis	2	.....	.....	2	.....	.....
Ringworm of scalp	1	.....	.....	.....	.....	.....
Ringworm of skin	.....	.....	.....	2	.....	.....
Sycosis barbae	.....	.....	1	.....	.....	.....
Trachoma	3	1	.....	1	4	2
Tuberculosis	1	.....	.....	.....	1	.....
Totals	14	1	1	9	5	2

SUBSECTION (m)—PHYSICALLY DEFECTIVE—AFFECTING ABILITY TO EARN A LIVING

Defects	Quebec	Halifax	St. John	Vancouver
Amputated members	4	4	6	.....
Club footed	1	.....	.....	.....
Congenital dislocation of hip	1	1	.....	.....
Curvature of spine	3	.....	.....	.....
Deafness, partial	7	.....	3	.....
Defective vision	7	.....	.....	.....
Deformed limbs	.....	.....	2	.....
Diabetes	1	.....	.....	.....
Disordered heart action	.....	.....	1	.....
Exophthalmos	.....	.....	1	.....
General debility	1	.....	.....	.....
Gun shot wound skull	.....	.....	1	.....
Hernia	9	.....	.....	.....
Hydrocele	.....	1	.....	.....
Impaired function of member	12	5	12	.....
Impediment of speech	4	2	4	.....
Loss muscular tissue	.....	.....	1	.....
Loss of eye	.....	.....	.....	1
Paralysis leg	1	.....	.....	.....
Poor physique	.....	1	.....	.....
Scoliosis	.....	.....	1	.....
Torticollis	1	.....	.....	.....
Varicose veins	1	.....	1	.....
Totals	53	14	33	1

SUBSECTION (c)—PERSONS PHYSICALLY DEFECTIVE—"LIABLE TO BECOME A PUBLIC CHARGE."

Defects	Quebec	Halifax	St. John
Absence of fingers, congenital	1	.....	.....
Absence of forearm, congenital	1	.....	.....
Amputated members	31	2	4
Anaemia	.....	.....	1
Arthritis, chronic	3	.....	.....
Asthma, chronic	.....	1	.....
Atrophy, muscular	.....	.....	1
Blindness, partial	1	2	.....
Blindness, total	3	1	.....
Bronchitis	2	.....	.....
Chest, defective	.....	.....	1
Chorea	.....	.....	1
Club footed	1	.....	.....
Curvature of spine	13	2	.....
Deafness, partial	41	1	9
Deafness, total	15	.....	3
Deaf and dumb	2	.....	.....
Debility, general	7	3	.....
Defective vision	40	1	4
Deformed hand	.....	2	.....
Dermatitis	.....	.....	4
Discharging sinus of hip	1	.....	.....
Dislocated hip	4	.....	1
Disordered heart action	3	.....	.....
Flat footed	.....	1	.....
Facial paralysis	.....	1	.....
Glands of neck	3	.....	.....
Goitre, exophthalmic	1	1	.....
Goitre, simple	1	.....	.....
Gun-shot wounds	.....	1	3
Hernia	21	4	5
Impaired members	67	2	22
Impediment of speech	2	.....	.....
Kyphosis	.....	.....	3
Laryngitis, chronic	.....	.....	1
Malaria, recurring	3	.....	.....
Nephritis, chronic	1	.....	.....
Neurasthenia	1	.....	.....
Osteo-myelitis, chronic	1	.....	.....
Otitis Media	.....	2	.....
Paralysis agitans	.....	.....	1
Paralysis of leg	1	.....	.....
Pleurisy, dry	.....	.....	1
Poor physique	1	.....	.....
Presenility	1	6	2
Psoriasis	2	.....	2
Rheumatism, chronic	10	.....	.....
Rickets	.....	1	1
Scoliosis	.....	.....	1
Senility	.....	5	1
Stone in ureter	1	.....	.....
Teno Synovitis, chronic	1	.....	.....
Valvular disease of heart	7	1	7
Varicose veins	2	.....	2
Totals	296	40	81

The total number of persons "certified" as coming within the "prohibited classes" set out in section 3 of the Immigration Act, is as follows:—

Section 3, Subsection (*a*)—Mentally defective	14
Section 3, Subsection (*b*)—Tuberculosis or loathsome disease	32
Section 3, Subsection (*c*)—Physically defective	417
Section 3, Subsection (*k*)—Constitutional psychopathic inferiority	7
Section 3, Subsection (*m*)—Ability to earn living affected	101
Total "certified"	571

Statements follow showing, by ports, the specific mental and physical diseases or defects for which these persons were "certified."

IMMIGRANTS AND NON-IMMIGRANTS MEDICALLY INSPECTED AT OCEAN PORTS

Month	Quebec		Montreal		Halifax		St. John		North Sydney		Sydney		Vancouver		Victoria		New York and Boston		Totals
	Imm.	Non-Imm.	Imm.	Non-Imm.	Imm.	Non-Imm.	Imm.	Non-Imm.	Imm.	Non-Imm.	Imm.	Non-Imm.	Imm.	Non-Imm.	Imm.	Non-Imm.	Imm.	Non-Imm.	
1922-23																			
April	86	66	.....	.....	889	140	1,852	194	14	73	7	23	64	82	81	22	393	84	4,070
May	7,617	933	39	22	189	181	12	45	43	295	.....	4	106	177	77	67	289	116	10,212
June	4,528	755	27	24	119	53	17	78	50	381	.....	.....	119	211	79	63	111	145	6,760
July	5,446	751	39	38	11	40	14	69	38	486	.....	.....	89	287	50	73	123	181	7,735
August	3,661	835	20	132	24	89	18	158	137	401	.....	2	40	241	49	78	156	130	6,171
September	4,239	850	47	52	9	119	8	76	314	713	.....	5	41	246	32	63	171	114	7,099
October	4,035	520	52	32	20	174	12	7	235	442	.....	6	79	75	36	18	174	122	6,039
November	2,172	318	25	15	57	88	120	14	372	301	1	11	55	47	36	20	172	80	3,904
December	.....	.....	1	.....	877	119	1,050	148	120	274	.....	.....	99	64	51	11	263	36	3,113
January	.....	.....	2	.....	448	207	1,145	95	127	106	.....	.....	54	23	63	17	205	55	2,547
February	.....	.....	.....	.....	568	139	1,582	170	.....	.....	31	17	75	50	33	8	354	67	3,094
March	.....	.....	.....	.....	1,876	161	2,794	144	.....	.....	30	82	85	127	67	34	274	62	5,736
	31,784	5,028	252	315	5,087	1,510	8,624	1,198	1,450	3,472	69	150	906	1,630	654	474	2,685	1,192	66,480

NOTE.—"Non-Immigrants" do not include returning Canadians.

LEPER STATIONS

Leper stations in Canada are two in number, one in Eastern Canada at Tracadie, N.B., of which Dr. J. A. Langis is the superintendent, and one on the Pacific coast, at D'Arcy Island, B.C., of which Dr. C. P. Brown, Quarantine Officer at William Head, is the superintendent.

Lazaretto, Tracadie, N.B.—At the close of the fiscal year, eleven patients were under treatment at this Lazaretto, six males and five females. One new case, a Chinese, was admitted on October 6, 1922, from a Montreal hospital. No deaths occurred during the year. The oldest patient is seventy-six, the youngest twenty-two years old. Seven are French Acadian, natives of Tracadie and of the surrounding country, one Prussian, one Icelander, one of French and Scotch descent, and one Chinese.

Dr. Langis reports as follows:—

"The three types of leprosy are seen here. We have seven arrested cases, three active but improving, and one in the last stage of the disease, with no hope of recovery.

"The treatment, the same as last reported, i.e., intramuscular injections of the ethyl esters of the fatty acids of chaulmoogra oil with iodide, H.I., is still giving good results. It is a cure for the malady.

"We owe a debt of gratitude to the Surgeon Director of the Leprosy Investigation Station, United States Public Health Service, Dr. H. W. Hasseltine, of Honolulu, Hawaii, for his kindness and generosity in periodically replenishing our supply of H.I.

"Sincere thanks are also due the nursing staff, the Reverend Sisters, who are the most potent help in the execution of my duties."

Lazaretto, D'Arcy Island, B.C.—This leper colony is situated about thirty miles from the Quarantine Station at William Head. Five Chinese lepers are at present under treatment, the number being unchanged from that of last year.

Dr. Brown reports as follows:—

"The lepers have been visited at weekly intervals by departmental medical officers. There has been slow but steady improvement in their condition. The United States Public Health Service has very kindly supplied us, through their officers at Honolulu with their preparation of the ethyl esters of the acids of Chaulmoogra oil, this without charge. Burroughs & Wellcome similar preparation "Moogrol" has also been used.

"Mr. and Mrs. McKee (the attendants at D'Arcy Island) are unremitting in their kindness and care over those in their charge."

In addition to the Chinese lepers under treatment at D'Arcy Island, a leper of Russian nationality is being cared for at the William Head Quarantine Station, where he was admitted some sixteen and a half months ago. Dr. Brown reports that this man's general health is good, and that the disease shows signs of responding favourably to the treatment being administered.

(3) MARINE HOSPITALS SERVICE

Under the provisions of Part V., Canada Shipping Act (Chapter 38, Sick and Distressed Mariners), sick mariners' dues of 2 cents per ton, net or registered tonnage, are levied on each vessel arriving at any port in the provinces of Quebec, New Brunswick, Nova Scotia, Prince Edward Island and British Columbia, from a foreign port or a port not within the same province. These dues are payable three times in each calendar year. Fishing vessels not registered in Canada pay no sick mariners' dues and do not participate in the bene-

fits accruing therefrom; but fishing vessels of Canadian registry may pay these dues and participate in the benefits. This Act does not apply to the province of Ontario, and therefore, no dues are collected in that province.

All sick, injured and distressed mariners employed on ships on which this duty has been paid are eligible to free and gratuitous treatment, and the expenditure therefor is defrayed out of the appropriation voted by Parliament for that special purpose.

The Department of Health operated two Marine Hospitals, one at Sydney and the other at Lunenburg, N.S. At other ports sick sailors were treated at the various town and city hospitals as per list hereunder:—

Nova Scotia.—

Amherst—Highland View Hospital.
Antigonish—St. Martha's Hospital.
Bridgewater—Dawson Memorial Hospital.
Glace Bay—St. Joseph's Hospital.
Halifax—
    Victoria General Hospital.
    City Health Board (Contagious diseases).
    Tuberculosis Hospital.
Kentville—Nova Scotia Sanatorium.
Middleton—Soldiers' Memorial Hospital.
New Glasgow—Aberdeen Hospital.
North Sydney—Hamilton Memorial Hospital.
Pictou—Pictou Cottage Hospital.
Springhill—Springhill Cottage Hospital.
Windsor—Payzant Memorial Hospital.
Yarmouth—Yarmouth Hospital.

New Brunswick—

Bathurst—James Dunn Hospital.
Campbellton—Hotel-Dieu Hospital.
Moncton—Moncton Hospital.
River Glade—Jordan Memorial Sanatorium.
St. John—
    General Public Hospital.
    County Hospital (T.B.C. cases).
St. Stephen—Chipman Memorial Hospital.

Prince Edward Island—

Charlottetown—
    Charlottetown Hospital.
    Prince Edward Island Hospital.
Summerside—Prince County Hospital.

Quebec—

Chicoutimi—Hotel-Dieu.
Levis—Hotel-Dieu.
Montreal—
    Montreal General Hospital.
    Notre-Dame Hospital.
    Hotel-Dieu.
    Royal Victoria Hospital.
    St. Paul's Hospital (Contagious diseases).
    Alexandra Hospital (Contagious diseases).
    Grace Dart Home (T.B.C. cases).

Quebec—Con.
Quebec—
Hotel-Dieu.
Jeffery Hale's Hospital.
Civic Hospital (Contagious diseases).
Sorel—Hospital General.
St. Johns—Hospital St. Jean.
Three Rivers—Hospital St. Joseph.

British Columbia—
Anyox—Anyox General Hospital.
Chemainus—Chemainus General Hospital.
Cumberland (and Union Bay)—Cumberland General Hospital.
Ladysmith—Ladysmith General Hospital.
Nanaimo—Nanaimo General Hospital.
New Westminster—St. Mary's Hospital.
Ocean Falls—Ocean Falls Hospital.
Port Alberni—West Coast General Hospital.
Power River.—St. Luke's Hospital.
Prince Rupert—Prince Rupert General Hospital.
Vancouver—St. Paul's Hospital.
Victoria—St. Joseph's Hospital.

At ports where there are no marine nor designated hospitals, the collector of customs makes best provision for the treatment of sick mariners at private residences or public boarding-houses. In a few instances the Department has made arrangements in form of contract with private residences at yearly rental rates.

There has been a marked increase in the shipping activities, as instanced by the large increase in the payment of sick mariners' dues. At the port of Montreal there has been more than one thousand arrivals from foreign, which is an increase of more than one hundred over the preceding year. The same increased activities have been experienced in Vancouver and other ports. In fact the shipping has practically resumed pre-war conditions. This accounts for the large increase in the number of sick and distressed mariners as compared with previous years, and necessarily for the considerable increase in the expenditure for operating this Service.

The total number of sick and injured who were treated in this service was 2,663, as compared with 2,035 for the year 1922, or an increase of 628; the number of days of hospital and private boarding-house accommodation was 32,679 as compared with 26,341, being an increase of 6,338 days. In order to meet this increased expenditure it was necessary to apply to Parliament for a supplementary vote of $20,000. This additional appropriation was nevertheless insufficient to cover the whole expenditure chargeable to the year 1922-23, and therefore amounts aggregating approximately $5,000 will have to be defrayed out of the vote for 1923-24, this representing about 80 sick sailors and hospital treatment of about 1,300 days.

The schedule of fees for port physicians' services, mileage, etc., was completely revised and the hospital rates were adjusted to meet present conditions of living costs. The department was also successful in arranging with the sanatoria of the various provinces both on the Atlantic and Pacific coasts for the admission and treatment therein of mariners suffering from incipient tuberculosis. It is thought this latter move will be of great benefit to the sailors, amongst whom tuberculosis is so prevalent.

I regret to report the loss through death during the year of the following medical officers:—

Dr. S. Anderson, Pictou, N.S.
Dr. T. DesBrisay, Lunenburg, N.S.
Dr. P. Duffy, Chatham, N.B.

Statements showing the various diseases and injuries for which the mariners received treatment during the year follow:—

STATEMENT OF DISEASES AND INJURIES TREATED

General Diseases—		545
Measles	9	
Diphtheria	5	
Scarlatina	4	
Mumps	1	
Erysipelas	2	
Typhoid fever	33	
Para-typhoid	5	
Tuberculosis	33	
Malaria	14	
Scabies	12	
Syphilis	71	
Gonorrhoea	108	
Alcoholism	1	
Morphinism	1	
Diabetes	5	
Rheumatism	68	
Scurvy	1	
Anaemia	2	
New Growths—malignant	3	
non-malignant	6	
Congenital malformation	1	
Cyst	11	
General Debility	17	
Neurasthenia	12	
Ptomaine	1	
Gangrene	2	
Influenza	117	
Local Diseases—		1,446
Diseases of the Nervous System		67
1. Of the nerves		
Neuritis	17	
2. Of the Spinal cord and membranes		
Degeneration of lateral column	2	
3. Of brain and membranes		
Inflamation	3	
4. Functional and other nervous diseases, etc		
Epilepsy	3	
Paralysis	1	
Hemiplegia	2	
Apoplexy	2	
Congestion of brain	2	
Neuralgia	26	
Hemorrhage of brain	1	
Headache	5	
Hysteria	2	
Dementia praecox	1	
Diseases of the eye		49
Conjunctivitis	26	
Chalazion	1	
Choroiditis	1	
Dacryocystitis	5	
Ulcer cornea	4	
Iritis	6	
Keratitis	4	
Blapharitis	1	
Pterygion	1	
Diseases of the ear		44
Cerumen	3	
Otitis media	35	
Mastoiditis	3	
Deafness	3	

STATEMENT OF DISEASES AND INJURIES TREATED—*Continued*

Diseases of the nose		9
Rhinitis	7	
Abscess	1	
Epistaxis	1	
Diseases of the Circulatory System		24
Heart Disease (valvular)	13	
Tachyocardia	1	
Atheroma	1	
Arterio-sclerosis	3	
Thrombosis	1	
Oedema	1	
Myocarditis	1	
Aneurism	2	
Angina pectoris	1	
Diseases of the Respiratory System		247
Bronchitis	111	
Tonsilitis	77	
Pneumonia	11	
Bronchial-pneumonia	2	
Laryngitis	9	
Congestion of lungs	4	
Pleurisy	13	
Asthma	50	
Oedema of lungs	1	
Hemorrhage of lungs	3	
Empyema	3	
Abscess of lungs	3	
Diseases of the Digestive System		451
Dental caries	61	
Toothache	10	
Alveolar abscess	30	
Quinsy	5	
Pharyngitis	2	
Ulcer of stomach	16	
Gastritis	66	
Indigestion	27	
Pyorrhoea	7	
Cancer of the stomach	3	
Fistula	4	
Hemorrhoids	27	
Appendicitis	62	
Colitis	14	
Jaundice	4	
Diarrhoea	16	
Constipation	13	
Hepatitis	7	
Hernia	33	
Dysentery	6	
Enteritis	13	
Dyspepsia	9	
Hepatic colic	2	
Intestinal obstruction	3	
Cholecystitis	2	
Ulcer of duodenum	4	
Hyperchloridia	3	
Peritonitis	2	
Diseases of the Lymphatic System		37
Adenitis	37	
Diseases of the Urinary System		47
Nephritis	12	
Bright's Disease	3	
Renal colic	1	
Peri-Nephritic abscess	1	
Cystitis	18	
Prostatitis	4	
Retention	1	
Renal calculus	5	
Dysuria	2	

STATEMENT OF DISEASES AND INJURIES TREATED—*Continued*

Diseases of the Generative System		68
Urethritis	4	
Balanitis	2	
Stricture	3	
Phimosis	5	
Para-phimosis	2	
Chancroids	5	
Varicocele	12	
Hydrocele	4	
Orchitis	17	
Epididymitis	14	
Diseases of the Organs of Locomotion		95
Osteitis	2	
Sciatica	8	
Myalgia	18	
Lumbago	28	
Osteo-myelitis	1	
Bursitis	4	
Sinusitis	2	
Perrio-osteitis	1	
Caries	3	
Synovitis	8	
Arthritis	17	
Necrosis	3	
Diseases of the Connective Tissues		176
Cellulitis	117	
Abscess	59	
Diseases of the Skin		132
Carbuncle	5	
Boils	56	
Erythema	4	
Eczema	12	
Herpes	3	
Urticaria	3	
Dermatitis	1	
Ulcers	28	
Whitlow	7	
Impetigo	2	
Psoriasis	4	
Seborrhea	1	
Acnea	1	
Lichen	1	
Pemphigus	1	
Anthrax	2	
Tinea	1	
Injuries—		
General Injuries		66
Burns and scalds	45	
Multiple injuries	21	
Local Injuries		606
Injuries face	17	
Contusions	14	
Injuries eyes	18	
Injuries head	32	
Fractured nose	2	
Fractured skull	2	
Foreign body eyes	30	
Injuries upper extremities	156	
Injuries chest	11	
Dislocation shoulder	3	
Fractured ribs	23	
Fracture maxillary	1	
Injury abdomen	5	
Dislocation hand	1	
Injuries side	7	
Sprained elbow	2	
Sprained back	16	
Fractured clavicle	5	
Fractured fingers	18	
Fractured arm	22	
Sprained wrist	10	
Dislocation elbow	2	
Fractured femur	8	
Fractured tibia and fibula	4	

STATEMENT OF DISEASES AND INJURIES TREATED—*Concluded*

Injuries—*Con.*		
Fractured tibia		11
Fractured fibula		2
Fractured spine		3
Fractured patella		5
Fractured foot		4
Fractured toes		4
Injuries to lower extremities		85
Sprained knee		6
Sprained ankle		16
Fractured sacrum		3
Flat-foot		2
Frost-bite		2
Fatigue		1
Gunshot wound		1
Malingerer		3
No diagnosis		30
Observation		3
Examination		16
Total number of seamen treated during the year, 1922-23		2,663
General diseases	545	
Local diseases	1,446	
General injuries	66	
Local injuries	606	
	2,663	

(4) VENEREAL DISEASE CONTROL

The campaign against the venereal diseases in Canada, which is being carried on conjointly by the Dominion and Provincial Governments, has been in operation for a period of three years. This campaign may be divided roughly into five main divisions:

1. Treatment.
2. Education.
3. Social Service.
4. Law Enforcement.
5. Statistics.

TREATMENT

The object aimed at in the provision of free treatment is twofold, viz., cure of existing cases and prevention of the occurrence of new cases. As contagion is, in the vast majority of cases, direct; it is manifest that the greater the number of cases which are rendered non-infective, the fewer the number of new cases that will arise. Treatment is, therefore, not only beneficial to the individual but to the community at large.

Treatment, to be effective, must be provided for all classes of individuals. Our policy has been to offer the best means both of diagnosis and treatment available, free of charge, to every venereal patient. Free treatment for venereal disease has been provided for in clinics and institutions, such as jails and reformatories, and through local physicians for cases remote from clinics. Beds are provided for cases requiring hospitalization. In establishing the clinics the following points were aimed at:—

1. To treat, promptly and effectively, the individual suffering from venereal disease.

2. To reach and render non-infective the greatest possible number.

3. To place the specialist in venereal disease diagnosis and treatment within the reach of every infected individual.

4. To make complete cure possible for everyone infected.

5. To diminish the spread of venereal disease in the community.

6. To act as educational centres for the prevention of illicit sexual intercourse and the prevention of venereal disease.

There are fifty-four clinics for the free treatment of venereal disease in the Dominion, extending from coast to coast and distributed as follows:—

Nova Scotia	5
New Brunswick	8
Quebec	10
Ontario	15
Manitoba	4
Saskatchewan	6
Alberta	4
British Columbia	2

These clinics were inspected by the chief of the division during the year.

The two points of importance that were considered in locating the clinic were accessibility and privacy. These two factors were met in some cases by placing the clinic in a hospital, as part of the general clinic, and in other cases by placing it in an office or other public building.

The advantages of making the venereal disease clinic part of the general clinic or operated in conjunction with other clinics are:—

1. It shows the public that venereal diseases are treated in exactly the same way as other diseases, which helps to develop a proper mental attitude on the part of the general public towards those diseases.

2. Specialists in the various branches of medicine are always at hand for consultation.

3. Clinics are operated more cheaply.

4. Students have greater opportunity for studying these diseases.

5. Many patients seek treatment in the general clinic who are unaware of the fact that they are suffering from venereal disease and are promptly referred to the venereal disease division; no time is, therefore, lost in bringing them under treatment.

6. The established institution with a reputation to maintain is apt to take greater pains with its patients.

Clinics are open, as a rule, in the afternoon. It is only with the greatest difficulty that physicians can be persuaded to give their services in the evenings and, without a doubt, the evening is the time best suited to the treatment of men. In most cases it is difficult or impossible for men to get away during the afternoon. Clinics should be open afternoons for women and children and evenings for men. Unfortunately, very few of our clinics are open evenings. All clinics are equipped with laboratory apparatus sufficient for dark field and smear examinations. Other examinations, bacteriological, serological and pathological are made in provincial laboratories which have been specially equipped for the work as part of the campaign. Examinations are made free of charge in these laboratories for all physicians. The personnel of the clinic consists in most cases of a physician, social service nurse and orderly.

We find that the success of the clinic depends in no little measure on the tactfulness and friendliness of the physician and nurse. There are, at present, being treated in our clinics, roughly, twelve thousand patients and new patients are coming in at the rate of about one thousand a month. The majority of

those attending our clinics are being treated for syphilis. Patients suffering from syphilis remain under treatment much longer than those suffering from gonorrhœa; hence the number of cases of syphilis under treatment at any given time will be much greater than the number of cases of gonorrhœa. The form of treatment and the preparations used are a matter of individual choice for the medical officer in charge of the clinic and no attempt whatsoever has been made to adopt any one particular line of treatment, for it is felt that with standardization the treatment of the patient as an individual will cease and the results will be harmful.

Treatment of prisoners in institutions, such as jails and reformatories, is carried on in all of the provinces with gratifying results. Treatment of the type of individuals who find their way to penal institutions is of the utmost importance, as it is just this class, which includes criminals, vagrants and prostitutes, who are active spreaders of infection. Hospitalization is provided in all of the provinces for cases needing indoor treatment. In some provinces hospitals are obliged by law to provide accommodation for these cases. There is, as we know, considerable objection on the part of hospital authorities to the admission of cases of venereal disease; but hospital authorities should recognize the fact that these diseases are worthy of the same consideration and treatment as other diseases.

EDUCATION

The object of education in this campaign is not so much the dissemination of knowledge of venereal disease as the development of standards of conduct and the formation of character.

A knowledge of venereal diseases alone will not prevent illicit sexual intercourse nor its consequences; there must be, in addition, sound ideals which act as a basis for the control of sexual appetite.

Our campaign of education comprises general information of the prevalence and danger of venereal disease and special information appertaining thereto for groups of individuals, such as parents, young men, young women, physicians, clergymen, nurses, employers of labour, etc.

Information is disseminated by means of publications, lectures, moving pictures and the attractoscope.

Publications.—Publications of the Dominion Department of Health include a brochure of general information for the practitioner, a manual of diagnosis and treatment of gonorrhœa and syphilis; a manual of laboratory diagnosis and of the Wassermann reaction; pamphlets for parents, young men and women; pamphlets for sailors, captains and ships' surgeons and for those suffering from gonorrhœa and syphilis, and a pamphlet for the prevention of gonorrhœal ophthalmia in children. Through the kindness of Dr. John H. Stokes, Chief of the Section of Dermatology and Syphilogy of the Mayo Clinic, the privilege was obtained of distributing his valuable work, " To-days World Problem in Disease Prevention," to the medical profession throughout Canada. I would like to add a word of thanks to Dr. Stokes for his generosity in again permitting us the use of his book, which is easily the most valuable of our educational literature. Abstracts of Current Venereal Disease Literature are distributed monthly to clinics and physicians who are interested in the subject. This is one of the most valuable of our publications and is distributed mostly to physicians. Testimonials from prominent physicians in Canada and the United States testify to its value.

Posters have been placed in public places calling attention to the dangers of venereal disease and advertising free treatment in clinics throughout the

country. In addition, the provinces distribute venereal disease literature. There were distributed in 1922 the following pieces of literature, etc.:

Stokes' book, English	6,000
" " French	2,500
Prevention of Blindness in Babies, English	46,000
" " " French	8,000
V.D. Diagnosis and Treatment, English	3,500
" " " French	500
" Microscopic Examination, English	3,500
" " " French	500
" Wassermann Test, English	3,000
" " " French	500
" General Circular, English	2,000
" " " French	500
Information for Men, English	15,000
" Young Women, English	9,000
" Parents, English	14,000
" Men, French	5,000
" Young Women, French	5,000
" Parents, French	5,000
Abstracts of Current V.D. Literature, No. 1	1,500
" " " " No. 2	1,500
" " " " No. 3	1,500
" " " " No. 4	1,500
" " " " No. 5	1,300
" " " " No. 6	1,100
" " " " No. 7	1,700
" " " " No. 8	1,800
" " " " No. 9	2,500
" " " " No. 10	2,500
" " " " No. 11	2,100
" " " " No. 12	2,000
" " " " Special No.	9,000
V.D. Educational Pamphlet No. 4, English	6,000
" " " No. 5, "	6,000
" " " No. 4, French	5,000
" " " No. 5, "	5,000
Pamphlet to the Sailor, English	3,000
" " " French	500
" " Captain, English	300
" " " French	300

Lectures.—Physicians, laymen and women, through the Dominion and Provincial Departments of Health and the National Council for Combating Venereal Disease, are giving lectures to general audiences and special groups.

The Chief of the Division of Venereal Disease Control addressed numerous audiences in various parts of the Dominion. In the month of January he accompanied representatives of the Canadian Social Hygiene Council on a lecture tour throughout the Province of New Brunswick. Packed houses were addressed in twelve cities. In Moncton, Fredericton and St. John hundreds were unable to gain admission to the lecture theatres. The meeting at St. John, N.B., was the largest public meeting ever held in that city. It was stated that this was the greatest series of public health meetings ever held in the Dominion. These lectures will be repeated in other provinces.

The incidence of venereal disease is greatest between the ages of seventeen and twenty-five years. Our lecture, to be effective, must anticipate this life period. Very little is accomplished through lectures to men of twenty-five years and over, for their character and habits have long since been formed and nothing we can say or do will effect a change. Similarly, lectures to adult mixed audiences, whose interest in venereal disease is purely academic, do not do much to diminish the incidence of venereal disease. Our best work is done through lectures to young men between the ages of fourteen and nineteen. The young man is the chief offender and the chief victim, and we should concentrate our efforts on him.

Parents, mothers particularly, and educators fear that lectures on the subject of venereal disease to boys of fourteen may be productive of more harm

than good. In this respect we must not forget that, when judiciously discussing the subject of venereal disease with boys of fourteen, we are not opening up a new subject, and one with which they are entirely unfamiliar, but are merely clarifying and making useful a knowledge which the vast majority of boys already possess; for the majority of boys receive their first knowledge of sex between the ages of nine and eleven years. This knowledge, gained as it is in the streets, is decidedly harmful. We cannot anticipate this knowledge. We cannot lecture to boys of tender age on the subjects of illicit sexual intercourse and venereal disease, as the judgment at that age is not sufficiently ripe to grasp the significance of our remarks and draw the desired conclusions. We can, however, do a great deal to offset that knowledge by our lectures before habits which are the direct result of that knowledge are formed. Similarly with young girls, our lectures on the ideals of womanhood, motherhood, deportment, the dangers of looseness, etc., must be given at an early age to be effective. Every boy and girl of sixteen years of age should have definite knowledge of the baneful effects of illicit sexual intercourse. Without that knowledge boys and girls are not equipped to face the realities of life, and unless we have given them that knowledge, we have not done our duty by them. Up to the present we have reached only very few boys and girls of the desired age. In that respect, at least, our campaign has been a failure.

Of the question of sex education in schools, very little need be said; for nothing of this nature has as yet been attempted in our schools. This subject was thoroughly threshed out at the "All American Conference on Venereal Disease", and the conclusions adopted were:—

> "That education in relation to sex is but a phase of character education as a whole and cannot be accomplished at any one time. It must be a progressive process of care, guidance, instruction and example. This fact, together with the intimate relationships of the members of the family, place upon the home the chief responsibility for sex education of children during the earlier years.
>
> "In the case of older children and adolescents, the responsibility for training and guidance in relation to sex is shared by all educational agencies having to to do with young people."

Whatever our methods of educating the public—pamphlets, lectures, films—all of them unquestionably have their appointed place, and all are of value. As time goes on it will be possible to place a more exact value on each type of educational propaganda and we will be able to use each with greater effect.

Education, next to the development of character in the home, is the chief factor in the work of venereal disease prevention. Wider publicity through the pulpit and greater co-operation generally on the part of clergymen, physicians and persons in an administrative, legislative and judicial capacity are greatly needed.

SOCIAL SERVICE

Nearly all of the clinics have a social service nurse. Her work is of value to the patient, the clinic and the community. By her kindly interest she helps the patient to continue treatment until cured and encourages attendance of other members of the family at the clinic for examination and treatment, if necessary. She helps the clinic by keeping records, by aiding in administration and developing the efficiency of the clinic. The community, she helps through her visits to the home and the information which she disseminates there. One of the most important phases of social service work is the control of the delinquent girl who finds her way to the clinic or is under treatment in an institution. The tactful

and interested nurse can and does help this type of girl in many ways. She encourages her, stimulates a renewal of self-respect, finds employment for her, and by removal to a new environment gives her an opportunity for rehabilitation.

In rural communities the district nurse does very valuable social welfare work. She visits the homes, inspects the children in the schools and through her efforts numbers of cases of venereal disease are brought into the city clinics and hospitals which otherwise would not have been treated. The social record sheet, which is kept by the nurse, is of great value in doing follow-up work, tracing the original source of infection and contacts; in estimating the value of propaganda and social welfare work, and in opening up new avenues of investigation. Social service work has not been given the recognition which its importance in the campaign merits.

LAW ENFORCEMENT

On the 9th of December, in the year 1915, the West Australian Venereal Disease Act came into being. On October 31, 1917, New Zealand brought in a similar but more limited Act, and in the years 1918 and 1919 several provinces in Canada made legislation of a like nature.

The main features of the Acts are the same in all of the provinces. These features comprise compulsory modified notification, compulsory examination of suspects and compulsory treatment of infected individuals, regulations prohibiting the sale of drugs and appliances for the cure of venereal disease, except on physicians' prescriptions; exclusion of infected persons from trades, right of entry; detention, quarantine, etc., regulations prohibiting infection of others, etc.

It will be seen at a glance that every effort has been made to bring under control individuals who neglect treatment and are a menace to others. There are, in addition, laws for the suppression of prostitution which have been in existence for a number of years. Latterly the " age of consent " has been raised and attempts have been made to provide legislation penalizing unmarried couples who register at hotels as man and wife. The advisability of penalizing owners of motor vehicles who use or permit their motor vehicles to be used for immoral purposes is under consideration, for it is realized to-day that the motor is replacing the house of assignation to no little extent. The success of the laws depends in great measure on the energy with which they are enforced. Money and the proper machinery, which are so essential for their enforcement are, to a great extent, lacking.

The laws of compulsory examination of suspects and compulsory treatment of infected individuals who fail to continue treatment as directed, apply chiefly to criminals, prostitutes and vagrants. These classes are constant spreaders of infection. These two laws are of real value and it is to be regretted that they are not enforced more rigorously throughout the whole of the Dominion. In only one or two provinces are they effectively enforced.

An attempt has been made in the United States to deal with venereal infection, especially as it occurs in inmates of bawdy houses, by placarding the premises in the same manner that premises are placarded for scarlet fever, smallpox, and other dangerous communicable diseases. This has not been attempted in Canada. In this regard the following resolution adopted at the " All American Conference on Venereal Diseases " will prove of interest:—

> " Whereas, since too little information is available for giving a satisfactory statement as to the results of placarding premises quarantined for syphilis and gonorrhœa; and,
>
> " Whereas, because of the nature of the diseases, their prevalence, and the widespread ignorance of their true character;

"It is resolved that the placarding of premises for the purpose of control of patients will be more harmful at this stage to a developing sympathetic public opinion than the (problematical) control of such individuals will benefit the public welfare".

The Dominion statute prohibiting the sale of drugs and appliances for the treatment of venereal disease, except on a physician's prescription, is enforced. The Division of Proprietary or Patent Medicines of the Department of Health refuses to register any proprietary remedy for this purpose and inspectors remove from sale any found on the market. If we succeed in enforcing compulsory treatment of prostitutes and other individuals who, through carelessness and indifference, are spreading infection, we will have accomplished much. The law of compulsory treatment of infected individuals is of real value in limiting the spread of infection. It should be more rigorously enforced. More important than laws and their enforcement is the following up of cases and continuation of treatment as long as the physician says it is necessary. Our experience shows that persuasion is a more powerful weapon than compulsion.

STATISTICS

It is only when one begins to look for venereal disease statistics that one realizes how fragmentary and unsatisfactory they are. The findings of the Royal Commission on Venereal Disease, which were published in 1916, added nothing to our previous knowledge of the prevalence of venereal disease in civilian life. They merely confirmed estimates that had been made a quarter of a century before by venereologists of various countries. Statistics of value which they gave us of the prevalence of venereal disease in the army and navy, are inapplicable to civilian life.

Since the inauguration of the world-wide campaign against venereal disease, attempts have been made to obtain statistics of value and to accomplish this the law enforcing notification of venereal disease was enacted. After a period of three years it is found that we are no whit better off than before. The returns being made by physicians practising in Canada do not, in any measure, represent the true incidence of venereal disease. Syphilis is being reported, but gonorrhœa scarcely at all.

In the year 1922, there were admitted to venereal disease clinics throughout the Dominion 12,252 new cases of venereal disease, and during the same period there were reported by physicians 16,220 new cases; making a total of 28,472 new cases of venereal disease for the year. There was an increase in the number of cases under treatment in clinics and institutions during the year, as well as an increase in the number of cases reported by physicians. The following figures, which are practically classical in that they so closely conform to estimates, are given for the province of Quebec:—

"Among the statistics of cases reported, 80 per cent of the total were men and 20 per cent women. Most became infected between the ages of 21 and 25, diminishing off from that figure both ways. Of these cases, 64 per cent are unmarried, 32 per cent married, and 4 per cent widowed. Commercialized prostitution accounts for 34 per cent and clandestine, 36 per cent. Congenital cases are only one per cent. Disease contracted under the influence of alcohol amounts to 25 per cent of the whole."

There are no figures of any real value of the prevalence of syphilis in civilian life. Drawing conclusions from the draft figures in the American army, 5·6 per cent would be an outstanding figure for the ages 21 to 31. The

Life Extension Institute found less than one per cent of syphilis in industry and about 3 per cent in a mixed population. The Mayo Clinic found 4·6 per cent of syphilis in mixed classes. The Royal Commission gave 10 per cent for the British Isles. Mortality reports of syphilis are just as difficult to obtain as are morbidity reports, owing to the fact that physicians, through kindly motives, do not give syphilis as the cause of death.

The sum of $200,000 was once more voted by the Dominion Government for carrying on the work of Venereal Disease Control. This was allotted to the provinces, which are carrying on the work, in the following way:—

New Brunswick	$ 7,517 83
Nova Scotia	10,573 86
Alberta	11,979 62
Manitoba	12,611 20
British Columbia	14,628 19
Saskatchewan	15,361 63
Quebec	47,388 80
Ontario	57,473 68

Prince Edward Island has not as yet joined in with the other provinces in the work.

The public are beginning to realize the gravity of the venereal disease question and increasingly active co-operation is being afforded those who are engaged in the work of venereal disease prevention and control. The progress during the year has been satisfactory. It is felt that a more intensive educational campaign by all who are engaged in the work throughout the Dominion would prove beneficial.

VENEREAL DISEASE REPORT FOR CALENDAR YEAR 1922

Month	Number of new cases reported by physicians	Number of new cases of Syphilis	Number of new cases of Gonorrhœa	Number of new cases of Chancroid	Total number of new cases of Syphilis, Gonorrhœa and Chancroid
January	1,267	535	737	30	1,302
February	1,068	447	485	23	955
March	1,493	450	531	40	1,021
April	1,421	406	450	13	869
May	1,481	447	523	27	997
June	1,141	358	648	26	1,032
July	1,186	605	369	31	1,005
August	1,679	342	574	25	941
September	1,237	390	539	30	959
October	1,573	465	757	35	1,257
November	1,489	328	576	9	913
December	1,185	398	491	112	1,001
	16,220	5,171	6,680	401	12,252

Total number of new cases for the year, 28,472.

TOTALS FOR THE YEAR 1922

Month	Number of patients under treatment	Number of treatments	Number of Wassermanns	Number of injections of Arsphenamine	Number of laboratory examinations
January	10,962	21,577	2,448	4,164	7,684
February	10,324	20,595	1,707	3,164	5,916
March	11,737	28,009	1,826	3,684	6,345
April	10,632	14,704	1,899	3,380	6,200
May	12,180	23,115	2,151	3,529	6,690
June	11,726	20,711	1,905	3,196	6,293
July	9,828	20,243	1,488	3,442	5,937
August	12,064	20,862	1,768	3,641	6,480
September	10,650	20,181	1,878	3,087	6,233
October	11,575	19,702	2,036	3,666	6,942
November	10,531	19,598	1,892	3,499	6,572
December	11,059	24,136	1,626	3,499	6,287
Total	.....	280,433	22,624	41,951	77,579

(5) DIVISION OF HOUSING, WITH HOSPITALIZATION AND SANITATION

HOUSING

A revote of $9,550,080 was approved by Parliament for fiscal year 1922-23. Out of this amount a sum of $3,225,286.16 was loaned by the Federal Government to the different provinces entitled to such loans under the provisions of the Federal Housing Act.

The unexpended amount of revote of 1922-23 as of date March 31, 1923, was $6,324,793.84.

The total amounts loaned to the provinces since the enactment of the Order in Council, P.C. 2997, dated December 3, 1918, as of date March 31, 1923, were:—

Manitoba	$ 1,975,000 00
New Brunswick	1,525,000 00
Ontario	9,350,000 00
British Columbia	1,701,500 00
Quebec	4,194,906 16
Nova Scotia	1,537,000 00
Prince Edward Island	50,000 00
	$20,333,406 16

The total number of houses erected, 4,612.

The number of houses under construction and planned to be built, 223.

The number of municipalities operating, 160.

Provincial Housing Acts and schemes have been enacted by all of the Provincial Governments with the exception of Alberta. The provinces of Manitoba, New Brunswick and British Columbia participated to their full quota and the provinces of Ontario, Quebec, Nova Scotia and Prince Edward Island, availed themselves in part of the additional amount payable under the revote of fiscal year 1922-23.

The correspondence and inquiries received, although not so voluminous as in previous years, was self evident that there still existed a desire on the part

of the people in the different provinces to improve their individual housing conditions, doubtless actuated by the example which had been set by the action taken under the provisions of the housing schemes.

One phase of the housing problem has particularly been impressed upon the Department by the advice sought by manufacturers when considering new locations for their industries and as more particularly noted by the efforts put forth in the devastated region of Haileybury caused by the disastrous fire in 1922.

At the request of the Premier of Prince Edward Island the department was asked to advise upon the proposed housing scheme, in consequence of which a visit was made whereat the provisions of the scheme were discussed and formulated for presentation to the Cabinet for approval.

The scheme was approved by Order in Council, P.C. 1688, under date August 14, 1922.

It will be noted that although legislation was enacted as of date August 14, 1922, the province did not participate in the federal loan until the end of March, 1923, and therefore no actual building took place.

Throughout the Dominion there would appear to be greater activity in homebuilding by the people, which can be taken as evidence of the success of the initiative taken in the enactment of legislation dealing with the housing problem of the post-war period.

HOUSING—STATEMENT SHOWING USE OF FEDERAL LOAN IN THE PROVINCES

(Compiled from Official Reports as of date March 31, 1923)

DR. J. A. AMYOT, C.M.G., Deputy Minister. B. EVAN PARRY, M.R.A.I.C., Supervising Architect.

Province	Amount payable on basis of 1911 census on $25,000,000 basis	Additional Amount payable on basis of $31,250,000, including revote of $9,550,080, 1922-23	Amount actually borrowed from Federal Government	Amount advanced by Province	Number of houses built	Number of municipalities	Number of houses under construction or to be built
	$	$	$	$			
Manitoba	1,580,534 79	395,133 69	1,975,000 00	1,097,841 09	314	17	33
New Brunswick	1,220,710 53	305,177 63	1,525,000 00	.....	Figures not available from Provincial Government.		
Ontario	8,753,291 93	2,188,322 98	9,350,000 00	8,283,040 99	2,316	74	100
British Columbia	1,361,521 59	340,380 40	1,701,500 00	1,701,500 00	528	30	45
Quebec	6,949,255 01	1,737,313 75	4,194,906 16	3,007,720 16	1,099	28	.....
Nova Scotia	1,707,931 14	426,982 79	1,537,000 00	1,537,460 00	355	11	45
Saskatchewan	1,708,257 23	427,064 31	.....	.....	No action taken.		
Prince Edward Island	325,144 45	81,286 11	50,000 00	.....	Loan made end of March, 1923, therefore no activities to report.		
Alberta	1,299,714 03	324,928 51	.....	.....	No legislation enacted.		
Northwest Territories	64,110 99	16,027 75	.....	.....	" "		
Yukon	29,528 31	7,382 08	.....	.....	" "		
Total	25,000,000 00	6,250,000 00	20,333,406 16	.....	4,612*	160*	223*

* Not including New Brunswick.

HOSPITALIZATION

From time to time trustees and hospital boards in different parts of the Dominion have applied to the Department for advice upon the planning, equipment, and principles pertaining to small community hospitals as also those for the treatment of infectious diseases.

Intensive studies have been made upon these subjects and a correlation of practices which obtain in the Dominion and other countries has been formulated. Further, sketch outline plans have been prepared for advice and guidance covering such hospitalization.

A brochure has been written upon the subject and is now being amplified in detail covering the more important phases such as equipment, lighting, heating, sanitation, food services, operating suites, etc., and will be published by the Department in due course. These inquiries have emanated from both the western and eastern provinces and the information furnished, it is understood, has been of great value.

The subject of hospitalization incidental to the Federal Quarantine Service has received the close attention of this division as far as relates to the remodelling of the buildings for the treatment of patients and housing of detained passengers, the results of which have proved the urge which obtained for such action as evidenced by the increased efficiency.

The new disinfector, power and plant house erected at Partridge Island, St. John, N.B., embodies the latest principles of disinfection and disinfestation and was finally completed ready for service in June, 1922.

The station at Lawlor's Island, Halifax, N.S., has been considerably improved both in wharfage and rearrangement of power, disinfection and disinfestation plant, as also the water system and fire protection. Obsolete isolated major infectious diseases hospitals have been remodelled so as to form a model smallpox unit, thereby decreasing the volume of labour and personnel incidental to such hospitalization. Medical officers' quarters which were non-existent prior to 1920 have been arranged, thereby providing means for close and intensive work in the case of quarantine. A survey was made of Rockhead Hospital, Halifax, N.S., with a view of ultimately treating the minor infectious diseases cases at this hospital.

In view of the proposal to treat the minor infectious diseases cases at the port of Quebec in the near future in lieu of as formerly at the Quarantine Station, Grosse Isle, P.Q., consideration was given to a scheme whereby such accommodation could be provided by revising and remodelling the existing hospital at Savard Park, P.Q., co-ordination of the services and economy being the essence of the scheme.

The preparation of a report upon the proposed new location at Bentinck Island, B.C., of the Lazaretto which now obtains at D'Arcy Island, B.C., occupied the attention of the division. Topography, climatic conditions, hydrography, water supplies, sanitation, lighting and communications were dealt with, culminating in the presentation of a complete scheme for the project.

Occasion was taken to report and advise on proposed accommodation for examination of hookworm disease in the Immigration building at Victoria, B.C.

SANITATION

Many applications have been and are being received daily asking for advice on sewage treatment for isolated houses where municipal sewage system is not available. It was, therefore, deemed advisable, owing to the importance of the subject, to have such a treatise prepared more particularly for the farmer, small

homesteader and trustees of small public institutions in isolated areas. The members of the Dominion Council of Health agreed that such a publication would prove of inestimable value and, consequently, it was published during the month of May, 1923, for distribution throughout the Dominion.

The Canadian National Parks Branch sought advice from the Department upon unsatisfactory sanitary conditions, including both sewage disposal and water supplies, which obtained at one of their townsites in Alberta. Careful investigation was made of the local conditions and a scheme devised whereby the existing outside privies should be abolished and tanks installed within the houses, the excreta being chemically treated and emptied by force pumps and disposed of in accordance with the most modern and scientific practice. Further, the wells found to be existing within the houses were recommended to be closed and driven wells installed in lieu thereof.

Water supplies have also received attention primarily from the point of view of obtaining pure supplies, special references being made to location, topography and soils, also the construction of wells, use of rain water and the objection to the primitive method of obtaining water outside the house when it is quite possible under present day conditions to have it installed within the house and of ready access to the housewife, thereby saving needless toil and lessening the causative effects of ill health.

Brochures covering the subjects of ventilation, garbage disposal and mosquito control are now under consideration and will be published in due course.

(6) OPIUM AND NARCOTIC DRUGS

The following licenses were issued during the year:—

Import licenses	200
Export licenses	40
Wholesale druggists' licenses	110
Retail druggists' licenses to manufacture	56

The following table shows the amount of narcotics imported into Canada for the years 1919 to 1923 inclusive:—

—	1919	1920	1921	1922	1923
Cocaine	12,333 ozs.	6,968 ozs.	3,310 ozs.	2,952 ozs.	3,330 ozs.
*Morphine	30,087 ozs.	28,198 ozs.	12,124 ozs.	8,774 ozs.	10,998 ozs.
Crude opium	34,262 lbs.	13,626 lbs.	2,953 lbs.	1,700 lbs.	1,373 lbs.

NOTE.—These figures cover the fiscal years ended March 31.

* Morphine includes diacetyl morphine (heroin).

While the above figures represent a slight increase in the amount of cocaine and morphine imported during the year ended March 31, 1923, it does not follow that there was an increase in the consumption of these drugs during the period in question, but simply that there was an increase in the quantity of these drugs held in stock at the end of the year.

The following table shows the amount of narcotics exported from Canada during the year:

Drug	Destination	Quantity		
		lbs.	ozs.	grs.
Cocaine	Newfoundland	..	..	6,369
	Brazil	..	..	960
	Nassau, B. P. Bahamas	..	..	480
Morphine	Newfoundland	..	..	10,406½
	Brazil	..	..	1,920
Heroin (diacetylmorphine)	Newfoundland	..	..	16½
	Brazil	..	..	240
Codeine	Newfoundland	..	..	1,260
	Brazil	..	..	3,840
	Nassau, B. P	..	..	960
Gum opium	Brazil	2	8	
	Nassau, B. P	..	8	
Powdered opium	Brazil	1	4	
Tincture opium	Jamaica, B.W.I	100	..	
Tincture of chloroform Co and morphine Co	Newfoundland	2	..	
	Nassau, B. P	5	..	
Dovers powders	Newfoundland	..	..	1,000 tbs.
	Nassau, B. P	1	..	
Glycoheroin	Newfoundland	1 gal.		

In connection with the exports of narcotics from Canada, it might be explained that most of these drugs are included in a mixture with other ingredients such as in tablet or pill form, etc., or in the form of tinctures, and are generally included with a general order for drugs of various kinds required by customers of Canadian manufacturers in Newfoundland, New Zealand, British West Indies and Australia. Narcotics exported to England would represent goods returned by the Canadian importer to the manufacturer in England.

The export of narcotics is controlled under license, and such license is only granted conditional on the Canadian exporter obtaining from his customer in the country to which the goods are to be exported, written permission from the proper authority of the Government of the importing country with a certificate stating that the drugs are required solely for scientific or medicinal purposes. This permit must accompany all applications for licenses to export narcotic drugs. The object of this system, is for the purpose of confining the use of these drugs to legitimate purposes so far as is possible, and to prevent unscrupulous individuals from importing narcotics for illigitimate use.

The following table shows the number of prosecutions handled by the Royal Canadian Mounted Police on behalf of the Department of Health during the fiscal year:

Province	Doctors	Druggists	Veterinary Surgeons	Illicit dealers other than Chinamen	Chinamen
British Columbia, not including Vancouver				9	164
Vancouver				10	26
Alberta	2			6	26
Saskatchewan				2	14
Manitoba		2		18	6
Ontario, not including Toronto			1	10	58
Toronto		1		12	45
Quebec, not including Montreal		1		22	8
Montreal	12	7		74	131
New Brunswick	1			3	
Nova Scotia					21
Prince Edward Island					
Totals	15	11	1	166	499
Total convictions	692				

Statistics covering the number of convictions for infractions of the Opium and Narcotic Drug Act other than by the federal police, are not yet available for the fiscal year. The attached table, however, shows the total number of convictions for offences against the Act for the judicial year ended September 30, 1922. These figures include federal, provincial and municipal prosecutions.

DETAILS OF CONVICTIONS FOR OFFENCES AGAINST THE OPIUM AND NARCOTIC DRUG ACT, FOR THE YEAR ENDED SEPTEMBER 30, 1922

Furnished by Dominion Bureau of Statistics

Province	Nature of Offence									
	Breach of Opium and Narcotic Drug Act not otherwise spec'd.	In possession of				Smoking Opium	Selling Narcotic Drugs	Dispensing Narcotic Drugs	Keeping Opium Dens	Frequenting Opium Dens
		Opium	Cocaine	Morphine	Drugs not specified					
Prince Edward Island										
Nova Scotia	11						1			
New Brunswick	3	2						2	1	3
Quebec	68	12	11		398	12	32		2	39
Ontario	25	70	8	7	114	46	23		8	86
Manitoba		7	5	11						
Saskatchewan		27	9	3	5	11	8		3	3
Alberta	7	27	8	1	8	9	5			2
British Columbia	14	127	52	44	140	82	44		17	185
Yukon Territory										
Totals for Canada	138	272	93	66	665	160	113	2	31	318

DETAILS OF CONVICTIONS FOR OFFENCES AGAINST THE OPIUM AND NARCOTIC DRUG ACT FOR THE YEAR ENDED SEPTEMBER 30, 1922—*Concluded*

Furnished by Dominion Bureau of Statistics

Province	Total Convictions		Sentence			Racial Origin											
	Male	Female	Option of a fine	Committed without option	Deferred, etc.	British and American	Chinese	French	Italian	German	Jewish	Polish	Russian	Scandinavian	Indian	Japanese	Austrian
Prince Edward Island	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nova Scotia	12	.....	12	.....	.....	2	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Brunswick	11	.....	11	.....	.....	4	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quebec	531	43	372	194	8	298	230	32	8	1	1	4	.....	.....	.....	.....	.....
Ontario	383	14	307	71	19	135	247	7	6	.....	.....	.....	2	.....	.....	.....	.....
Manitoba	21	2	11	11	1	17	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saskatchewan	65	4	47	19	3	15	50	.....	.....	.....	1	.....	2	1	.....	.....	.....
Alberta	65	2	48	18	1	16	49	.....	.....	.....	.....	.....	1	.....	1	.....	.....
British Columbia	675	30	506	180	19	176	519	.....	1	.....	.....	.....	.....	1	4	3	1
Yukon Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals for Canada	1,763	95	1,314	493	51	663	1,117	40	15	1	2	4	5	2	5	3	1

With regard to the situation in Canada, generally speaking, it is not much improved. Our laws are being strictly enforced and the importation, manufacture and sale of these drugs through the legitimate trade channels is under very strict supervision and control. Large quantities are smuggled into the country for illicit purposes and this to a very large extent adds difficulties to our efforts to suppress the illicit traffic in narcotics.

From information reaching the department there is very little doubt that the greater part of these illicit shipments is smuggled into this country by certain officers and members of the crews of the various steamship companies operating between Canadian and European ports. Drugs are smuggled into Canada from Italy, Switzerland, France, Holland, Germany and Great Britain. It is understood that sometimes these drugs pass through seven or eight hands between the time they are packed for shipment in Europe and their reaching the receiver in Canada.

This system is carried on very extensively and some of the dealers in the United States and Canada have four or five separate connections in Europe. The Department has reason to believe that large quantities of the drugs reaching Canada through illicit channels are intended for the United States, as the demand there is much greater than in Canada.

At the present time arrangements are being perfected by the Customs and Federal Police authorities in co-operation with the League of Nations, by which it is hoped to get at the root of this evil by apprehending the ringleaders interested in the smuggling of these drugs into the Dominion.

The medical profession is being convinced that it can do with much less of these drugs in the practice of medicine than has been customary in the past and that narcotics can be prescribed, in a great many instances, in some form other than morphine or heroin.

While Turkey and Persia remain outside the Opium Convention, it is extremely difficult to control the production of the basic drug, opium. Conditions in China also aggravate the situation to a very great extent, in view of the fact that in the northern provinces of China, the poppy is grown almost as extensively to-day as at any time in the past, and there is little doubt that large quantities of the opium produced in China (in contravention of the laws of that country) find a ready market through illicit channels.

The following is a list of narcotic drugs and opium-smoking paraphernalia seized by the Customs and Police authorities during the year ended December 31, 1922:—

Place	Date	Nationality	Goods
Montreal	Mar. 2, 1922	Canadian	4 ozs. cocaine
"	Jan. 5, 1922	Italian	5½ ozs. cocaine
			36 ozs. morphine
			7 ozs. cocaine
			1,000 heroin tabs.
"	Oct. 31, 1921	Unknown	36½ ozs. cocaine
"	July 31, 1922	Canadian	8½ ozs. cocaine
Victoria	" 31, 1922	Chinaman	28 tins opium
Montreal	Aug. 21, 1922	Canadian	4 lbs. opium
"	" 21, 1922	American	10 lbs. opium
"	" 21, 1922	Chinaman	15 lbs. opium
"	" 21, 1922	"	25 lbs. opium
"	July 7, 1922	Unknown	4¾ ozs. cocaine
Edmonton	June 30, 1922	American	5 capsules morphine
Victoria	Dec. 1, 1922	Chinaman	192 tins opium
Montreal	Nov. 20, 1922	Unknown	10,000 ozs. cocaine, morphine and heroin
St. John	Dec. 11, 1922	Canadian	100 ozs. morphine

Opium	199 lbs. 1 oz. 206 grs.
*"Decks" of opium	489
Opium seconds (Yenshee)	9 lbs. 8 ozs.
Morphine	7 lbs. 6½ ozs. 389 grs.
Tablets (half grain)	1,285
*"Decks" of morphine	174
Cocaine	7 lbs. 1 oz. 163 grs.
*"Decks" of cocaine	355
Heroin	7 lbs. 5 ozs. 135 grs.
*"Decks" of heroin	15
Drugs (Miscellaneous) including morphine, heroin and cocaine, 57 bottles containing 15 lbs. 3 ozs. 58 grs.	
*"Decks"	3,134
Opium lamps	587
Opium smoking pipes	398
Opium scales	165

*A "Deck" is a small package containing from three to five grains.

Twenty-seven persons were deported by the Immigration authorities under the provisions of section 10 (*b*) of the Opium and Narcotic Drug Act.

One of the great needs in Canada at the present time is hospital accommodation for the treatment of drug addicts. The ordinary hospital does not care to admit this class of patient, owing to the fact that they are as a rule very noisy and require male attendants, and also in view of the fact that the treatment takes time and is therefore expensive, and the great majority of these drug addicts have not the financial means of paying for such treatment.

It is an agreed principle by most medical men who have made a study of the treatment of drug addicts, that it is practically impossible to treat this class of patient sucessfully, with a view to affecting a cure, unless the patient is confined to some hospital or institution where there are proper facilities for care whilst undergoing treatment. The so-called ambulatory method or gradual reduction treatment has long since proved a failure and has been discarded by the great majority of the medical profession as an unscientific and impractical method of effecting a cure, for the principal reason that drug habitués as a rule, while expressing a sincere desire to be freed from the habit, invariably manage to obtain supplies through the medium of more than one physician at the same time, or through underground channels, thereby nullifying the efforts of the actual physician directing the treatment. It is therefore of the first importance that a patient should be confined to an institution, so that his physician may have absolute control over the supply of narcotics obtained by the patient while undergoing treatment.

Unfortunately, at the present time there are no institutions in any of the provinces, which make provision for the admission of drug addicts to be treated voluntarily or otherwise. Most of these patients are committed to the ordinary jail or to an insane asylum, neither of which can be considered a proper place for the treatment of this class of patient. The matter of treatment is purely a medical one, while the suppression of the illicit traffic is altogether a police question. The two, however, are inseparably linked up in so far as stamping out the evil is concerned, and until such time as the provincial and municipal authorities make arrangements for the care and treatment of drug addicts, it will be a most difficult matter to eradicate the evil and prevent its spread. It has been proved that drug addicts succeed in inducing persons to use deleterious drugs, thereby spreading the habit with a view to being themselves able to obtain a supply of the drugs when in need. The drug addict lives in fear of not being able to replenish his supply.

In the clinic which was opened in the city of New York some few years ago for the treatment of drug addicts, very accurate statistics were kept of 3,262 persons treated. Of this number, 2,647 were male and 615 female. The stated causes of addiction were as follows: Illness, 429; other causes, curiosity, pleasure, trouble, etc., 351; association, 2,482. Among the age groups, 968 were between 15 and 19 years, 927 between the ages of 20 and 25 years, 711 between the ages of 26 and 30 years, 523 between the ages of 31 and 40 years, and 133, 41 years or over.

In connection with these statistics, Dr. Copeland says:—

> "To my mind the most striking thing about these figures is that the large majority of the patients are under 25 years of age, and nearly one-third are not out of their teens. Our patients are just misguided and unfortunate boys and girls—mere children. That more persons past the age of 40 do not appear means that the addict dies young, a ready victim of tuberculosis or some other acute infection, or the drug traffic on the present scale is so recent that only the young are at present affected."

Arrangements have been made for closer co-operation between the provincial and municipal authorities with a view to making a concerted effort to stamp out the narcotic drug evil in Canada.

(7) PROPRIETARY OR PATENT MEDICINES

Medicines registered and licensed under the Proprietary or Patent Medicine Act numbered 4,868. These preparations comprised tonics, headache powders, pills, liniments, salves, etc., and were for the most part manufactured in Canada, but considerable quantities were imported from England, France, United States and Germany.

Of the number referred to, about 100 contained alcohol in excess of $2\frac{1}{2}$ per cent and were approved by the Advisory Board as containing sufficient medication to prevent their use as alcoholic beverages. During the period under review, 50 per cent of the registration numbers previously assigned alcoholic tonic wines were cancelled, chiefly at the request of the manufacturers, who apparently found that the medication insisted upon by the Advisory Board rendered their products unsaleable.

Many articles presented for registration were rejected as absolute frauds or dangerous to health. The general tone of advertising medicines, subject to this Act, very noticeably improved and violations of its provisions materially decreased. So far as the Department has been able to ascertain, the proportion of scheduled drugs used in medicines registered thereunder did not exceed the quantities permitted.

It may be pointed out, however, that many manufacturers chose the alternative of printing on the labels and wrappers the formula or full list of medicinal ingredients and proportion of scheduled drugs present in their preparations and thus claimed exemption from the requirements of the Act.

(8) DIVISION OF CHILD WELFARE

General co-operation in matters relating to child and maternal welfare has been continued or established as follows:—

(*a*) *Department of Immigration, Women's Branch.*—Conferences *re* the care and welfare of women and children arriving at the ports and immediately thereafter. Special attention to young women going into domestic service and to those coming out to be married in Canada.

(*b*) *Department of the Interior.*—Conference *re* child welfare and maternal welfare in the Northwest Territories and the Yukon. Information on file.

(*c*) *Department of Trade and Commerce, Dominion Bureau of Statistics.*—Frequent conferences have been held with the Dominion Statistician *re* vital statistics, *re* statistics on education, statistics *re* juvenile delinquents, and statistics *re* age, height, weight.

(*d*) *Department of Agriculture.*—Conferences *re* the use of milk for children and mothers.

(*e*) *Department of Indian Affairs.*—Conferences *re* welfare of Indian children and the providing of publications for Indian mothers.

(*f*) *Department of Soldiers' Civil Re-establishment.*—Conferences *re* dietary and other matters relating to child and maternal welfare.

(*g*) *Soldiers' Settlement Board—Home Branch.*—Conferences *re* home welfare and distribution of literature also preparation of new publications.

CO-OPERATION WITH THE PROVINCES

Co-operation with all the provinces of Canada in regard to child and maternal welfare has made continued progress during the year. Perhaps the best instance of this is the fact that over five hundred persons, representing about fifty different departments or boards of Provincial Governments, co-operated directly in the preparation of the "Hand-book of Child Welfare Work in Canada," published March 27, 1923.

CO-OPERATION WITH VOLUNTARY SOCIETIES

Co-operation with voluntary societies and private individuals has advanced in like manner. We are in constant communication with all the voluntary organzations of a national character and with a much larger number of Provincial and local associations who are working more or less directly for child welfare. The number of letters and telegrams received—2,241—and the fact that one hundred and fifty persons from all parts of Canada have called at the office during the year, illustrates this.

Opportunities for this work have increased during the year. Special mention may be made of the work of the Canadian Tuberculosis Association *re* the prevalence and prevention of tuberculosis in childhood. A subcommittee of the executive has this matter in hand and in addition to the first survey in Saskatchewan three other provinces are proceeding with the plan. It is hoped that about 1 per cent of the school population will be examined and that similar studies will be made of children of pre-school age. Meetings of this subcommittee have been regularly attended.

As before constant co-operation has been maintained with the Canadian Council of Child Welfare, the Canadian Association of Child Protection Officers, and with other voluntary associations and organizations, for the benefit of children who need special care, both local and general.

We are again indebted to the authors and publishers of books, pamphlets, periodicals and reports upon the subject of child welfare in all the provinces of Canada, in Newfoundland, in Great Britain, in India, South Africa, Australia, New Zealand, the United States, France and Belgium, for forwarding their publications.

Co-operation with provincial officials and authorities has been carried on as usual by correspondence, visits to the provinces from time to time, by personal interviews and by answering numerous requests for action and information con-

cerning a great variety of subjects within the scope of child and maternal welfare and home interests. On the same general plan, co-operation has been carried on during the year with private individuals, and Voluntary Societies engaged in the work of child welfare.

PUBLICATIONS OF DIVISION

A "Handbook of Child Welfare Work in Canada" has been prepared and published during the year. This book consists of a brief statement, compiled from official reports and other authoritative sources, of the work for child welfare which was carried on in Canada during the official year ended March 31, 1922. The "Handbook" was published on March 27 and about 7,000 copies were mailed on or about March 31. The cordial co-operation and help of the members of the Dominion Council of Health and of the provincial authorities rendered it possible to present a general view of child welfare work in Canada. It is hoped that the "Handbook" may be found useful for reference and other purposes.

THE CANADIAN MOTHER'S BOOK

It became necessary to prepare a new and revised edition of "The Canadian Mother's Book" during the year, new material being available since March 3, 1921, when it was first issued, and the plates used for the original book being worn out.

New illustrations have been added to the book, which contains about fifty pages more than the original edition and is divided into chapters. An index has been added by request and several tables.

"The Canadian Mother's Book" has been translated into Ruthenian and is appearing serially in *Ranok*, a Ruthenian paper published in Winnipeg.

Special requests have been made from time to time, especially by the Home Branch of the Soldiers' Settlement Board, for a little book for mothers in outpost homes, who may fear that medical and nursing aid may not be available at the time of the birth of the baby. Such a publication has been written and discussed with several authorities. It is now ready for publication and it is intended that one thousand only be printed, until we can ascertain whether or not a larger distribution is advisable.

THE LITTLE BLUE BOOKS—HOME SERIES

The Little Blue Books—Home Series have been reprinted several times during the year, both in English and French. It is now intended to prepare and publish as soon as possible, new and revised editions in English and French, of all the fourteen Little Blue Books, arranged in three series, as follows:—

The Mother's Series:

1. The Canadian Mother's Book.
2. How To Take Care Of The Baby.
3. How To Take Care Of The Mother.
4. How To Take Care Of The Children.
5. How To Take Care Of The Father and The Family.

The Home series:

1. Beginning Our Home In Canada.
2. How To Build Our Canadian House.
3. How To Make Our Canadian Home.
4. How To Make Our Outpost Home In Canada.
5. How To Prevent Accidents And Give First Aid.

The Household Series:

1. Canadians Need Milk.
2. How We Cook In Canada.
3. How To Manage Housework in Canada.
4. How To Take Care of Household Waste.
5. Household Cost Accounting in Canada.

FALL FAIR POSTERS

In the month of July, 1922, posters were prepared in English and in French and lithographed for use at the fall fairs and exhibitions. The posters gave the list of publications in child welfare and directions as to how these might be obtained free. It was found that there are over eight hundred of these exhibitions and the postcards, which accompanied the posters were filled out in many hundreds of cases. The total number of posters sent out was 1,400 and postcards sent out 40,000.

During the month of October alone 7,315 of these pastcards, duly filled, were returned with requests for publications.

CARDS FOR DISTRICT REGISTRARS

The "Card for the Baby's Mother," approved by the Chief Provincial Medical Officers of Health and first issued in 1921 to the district registrars, has been more successful than ever before in this, the third year of issue. No day passes without a little pile of these cards coming back in the mail and they come from all the provinces. The words "This Card is for the Baby's Mother" are printed in red on the face of the card is intended to be forwarded to the mother when the birth is registered by favour of the person registering the birth. We have received thousands of these cards during the year, returned to us duly filled out with the mother's name and address as requesting a copy of "The Canadian Mother's Book."

HOME SERVICE

Every year the national importance of this matter becomes more urgent. In addition to the work of the Department of Immigration, Women's Branch, in which we have had the privilege of co-operating (see above) it is well known that the Governments of Ontario, Saskatchewan and British Columbia have respectively taken steps to meet the need and that their plans have met with a measure of success. In these provinces and in the other provinces of Canada, the Salvation Army is engaged in efforts which have the same general aim, and in some provinces the authorities have expressed their wish to approve and support the work of the Salvation Army rather than to engage in such work themselves.

In the province of Saskatchewan the plan of "Nursing Housekeepers" has been devised and carried out and in some of the cities of Canada, the local health authorities, in co-operation with voluntary associations, are considering ways and means to meet the need of supplementing pre-natal care by some form of home service, and securing, if possible that such home service shall be made available, for a reasonable charge, or if necessary, free of charge, at the time of the birth of the baby and for a little time thereafter, until the mother has regained her strength.

An opportunity offered in December, 1922, to give a public address on "Home Service and Public Health" and two articles upon the same general subject have been prepared, which it is hoped may appear in some popular magazine published in Canada, and may help to direct public attention to this subject.

OUTPOST HOMES

Increased attention has been given to this subject during the year and further knowledge of the situation has been gained by enquiry, conference and correspondence. Public opinion is becoming better informed as to the need of medical and nursing care in these homes and the necessity of some domestic assistance, at least for a short time, immediately before and after the birth of the baby.

CHILDREN NEEDING SPECIAL CARE

As will be seen by reference to the " Handbook ", marked progress has been made during the year in regard to the education and supervision of children who, for any reason, require special care.

AGE—HEIGHT—WEIGHT

Statistics *re* the age—height—weight of school children in Toronto, were compiled by the Division of School Medical, Dental and Nursing Service of the Department of Health, Toronto, in September, 1922, and it was arranged that the Dominion Bureau of Statistics should tabulate these figures from the cards as supplied by the Toronto Department of Health. The results so obtained were forwarded to the Toronto authorities early in March, 1923, and a copy sent to this division.

The following opinion is expressed by Mr. E. S. Macphail, Superintendent of the Division of Demography in the Dominion Bureau of Statistics, under whose direction the work was done, in a letter dated March 9, 1923:—

> " I think the tables showed some very interesting facts and compared rather favourably with those procured by Dr. Wood, of the United States Government."

FOOD AND DRUGS DIVISION

GENERAL

Samples of food and drugs were examined at the laboratories of the department, as follows:—

OTTAWA

Alcohol	4	Baking powder	3
Balsam of honey	1	Basic salg	3
Beans	29	Beer	1
Black pepper	95	Blood meal	2
Bread	3	Bone meal	2
Butter	115	Camphorated oil	20
Candy	1	Canned tomatoes	3
Catsup	3	Cell-u-flour	1
Cheese	11	Cheese colour	10
Chili con carne	1	Chili sauce	1
Chloroform	6	Chocolates	1
Chow Chow	2	Cider	11
Cloves	1	Cocoa	4
Cocoanut oil	1	Coffee	6
Cotton seed meal	1	Cream	1
Cream of tartar	7	Custard	1
Custard powder	1	Darco	1
Decorticated pepper	1	Desiccated vegetables	4
Disinfectants	2	Drugs	463
Dubbing	2	Dye	1
Egg albumen	16	Egg desiccated	1
Egg dried	5	Egg whole	4
Egg whole powder	1	Egg yolk	2
Enamel	1	Eucalyptus oil	1

OTTAWA—*Concluded*

Extract of cinchona	4
Extract peppermint	10
Feeds	224
Figs	9
Flour	2
Full meal	1
Gasoline	1
Ginger	1
Glycine	2
Hamburg steak	9
Honey	12
Icing sugar	4
Instrument oils	4
Izal	1
Jelly	12
Jirah flour	1
Linseed oil	1
Maple sugar	4
Marmalade	2
Meat potted	4
Milk foods	2
Mushrooms	1
Nuts	15
Oil of wintergreen	2
Olive oil	30
Orangeade	2
Paints and varnishes	13
Peas	1
Pepper shells	2
Poisons	10
Port wine	2
Prunes	1
Pure sugar and cream and butter	1
Red lead	1
Saltpetre	2
Sarsaparilla	1
Seidlitz powders	1
Shellac	1
Sirop d'Anis Gaugin	1
Soft drinks	6
Spirits Aromatic amm	1
Spirits of nitre	5
Sugar	1
Syrup	10
Tablets	1
Tincture of digitalis	1
Tonic wines	26
Vanilla beans	1
Vegetables	1
Vinegar malt	3
Water	1
White lead	1
Extract of lemon	5
Extract of vanilla	1
Fertilizers	144
Fish	14
Fluids	1
Fowler's solution	1
Gelatine	20
Glander salts	1
Grape juice	1
Headache powders	9
Ice cream	1
Inks	4
Iron brew	1
Jams	83
Jirah bread	1
Lemon sour	4
Maple butter	2
Maple syrup	55
Meat	1
Medicines	6
Molasses	1
Nutmegs	4
Oil	14
Oleomargarine	15
Olives	4
Paints	12
Paraffin	2
Pectin	1
Pie filling	2
Pork and beans	3
Preservatives	3
Puddings	4
Rangoon oil	1
Raspberry jam	1
Saddle soap	4
Salus	2
Sausages	27
Shaving cream	1
Shrimps	2
Soap	26
Soups	6
Spirits of camphor	7
Stock tonic	1
Sweet oil	1
Syrup laval	1
Tanlac	6
Tincture of iodine	6
Tomato paste	1
Turpentine	12
Varnish	1
Vinegar	5
Vinegar spirit	4
White sauce	1
Wine	2
Total	1,860

HALIFAX

Maple sugar	10
Confectionery	16
Butter	5
Evaporated fruit	8
Pepper	24
Allspice	4
Cream tartar	16
Egg powder	1
Lemon extract	26
Lime juice	3
Fruit syrup	2
Spices (imported)	11
Turpentine	2
Fertilizers (Department Agriculture)	70
Butter (Department Agriculture)	5
Water	4
Liquor	3
Honey	18
Molasses	1
Olive oil	14
Ginger	20
Cloves	5
Seasoning	2
Coffee	4
Gluten flour	1
Other flavouring extracts	10
Cider	2
Vinegar	3
Preservaline	2
Opium and narcotic drugs	11
Feeding stuffs (Department Agriculture)	43
Wash and spirits (Customs)	16
Spices	2
Total	364

MONTREAL

Baking powder	4	Mana	2
Bromo seltzer	1	Maple cream	1
Butter	141	Maple sugar	17
Camphorated alcohol	3	Maple syrup	15
Camphorated oil	5	Milk	27
Catsup	1	Mineral water	2
Cherry candies	1	Molasses	6
Cinnamon	4	Mustard	4
Cloves	5	Olive oil	31
Cocoanut oil	2	Patent medicine	1
Coffee	2	Pepper—White	8
Cognac flavour	1	Pepper—Black	29
Cordial St. Francois	1	Pepper—Red	2
Corn (canned)	4	Peppermint extract	2
Cream	12	Ratafia extract	1
Cream of tartar	2	Salad oil	2
Eggs (shelled)	1	Salmon (canned)	1
Ginger	34	Sausages	17
Ginger extract	1	Seidlitz powders	3
Glycerine	2	Strawberry extract	1
Ham (pressed)	1	Syrups	2
Headache powder	1	Tincture of iodine	5
Honey	10	Tomatoes (canned)	3
Hydrogen peroxide	1	Vanilla extract	3
Lemon extract	31	Vinegar	12
		Total	468

CUSTOMS IMPORTS

Anchovies	2	Pure white lac	1
Beans	2	Preservaline	2
Chaulmoogra oil	1	Walnuts	3
Dry figs	1		
Gluten bread	1	Total	13

SUBMITTED BY THE ROYAL CANADIAN MOUNTED POLICE

Narcotic drugs	130

SUBMITTED BY THE DEPARTMENT OF AGRICULTURE

Butter	87	Feeding stuffs	139
Mana	4	Fertilizers	42
Cheese	10		
		Total	282

WINNIPEG

Allspice, ground	3	Green River syrup	1
Baking powders	4	Honey, comb	1
Camphorated oil	4	Honey, strained	22
Camphor, spirits of	1	Iodine, tincture of	4
Cassia, ground	3	Jelly powders	3
Cayenne	1	Lard	5
Canned fruits and vegetables	23	Lemon flavouring extract	38
Chocolate candy	35	Mace, ground	3
Cloves, ground	8	Maple syrup	17
Cocoa	9	Mustard, ground	3
Coffee, ground	17	Mustard, prepared	2
Condensed milk	1	Olive oil	15
Cream of tartar	3	Oranges	2
Egg powder	1	Pepper, ground, black and white	55
Friar's balsam	1	Vanilla extract	15
Ginger, ground	27		
		Total	327

FROM FEDERAL DEPARTMENTS

Department of Agriculture, Dairy Division, butter	12
" " Seed Branch, feeds	196
" " " fertilizers	10
" Customs and Excise, Customs, beans	32
" " " " celery	26
" " " " nutmegs	1
" " " Excise, liquors	60
" R.C.M.P., Excise liquors	10
" " Indian Act liquors	2
" " narcotics	73
" Soldiers' Civil Re-establishment, canned goods	131

FROM PROVINCIAL GOVERNMENT DEPARTMENTS

Manitoba Temperance Act Administration, liquors for alcohol	40

SAMPLES FROM OTHER SOURCES

City of Winnipeg, narcotics	5
" Moose Jaw, canned corn	3
" " milk	1
Beverages for alcohol content	25
Beef and pork fat residues	2
Camphor, spirits of	2
Epsom salts	1
Feed	1
Gelatine	2
Potted meats	27
Stock tonic	1
Vanilla flavour	1
Vinegar	4
Wines, tonic	2
Total	670
Total samples	997

One shipment of 930 pounds of nutmegs was refused entry into Canada, on account of excess of mouldy and wormy nutmegs. A shipment of potted meats, examined for the importer, was declared unfit for food. This shipment was subsequently destroyed. On account of alleged illness from eating sprayed celery, all imported shipments were examined for arsenic adhering sprays. Twenty-six carloads have been examined during the last three months of the fiscal year.

VANCOUVER

Albumen, dried egg	6	Flour, cake ("Swans' Down")	1
Allspice, ground	6	Flour, diabetic ("Jirch & Premier")	2
Almonds, whole blanched	1	Flour, sausage	2
Apples, evaporated	18	Gelatin	2
Ashes, wood	8	Ginger, ground	1
Asparagus, canned	1	Ginger, preserved	4
Baking powder material	2	Grapefruit, fresh	1
Beans, Asiatic	135	Honey	2
Betel nut sweetmeats	2	Jam, gooseberry	1
Butter	8	Jam, plum and orange	6
Cassia bark	2	Labels	1
Cherries, canned	1	Lard purifier	1
Chicory ground	1	Lemons, fresh	1
Cider, apple	4	Mace, ground	3
Cigarette for opium	1	Mace, whole	4
Cloves, whole	5	Medicines, pills and herbs, Oriental	21
Cocoa beans	7	Milk, canned whole	2
Cocoa powder	1	Milk, fresh whole	1
Cod, smoked black	1	Milk, powdered whole	2
Coffee substitute	1	Milk, dry skimmed ("Dryce")	1
Corn, canned	1	Mustard, French	1
Cream, canned ("Keepsweet")	1	Mustard, flour	1
Cream thickener ("Cremo Vesco")	1	Nutmegs, whole	2
Dates, dried	1	Oil, olive	11
Drugs, narcotic	78	Oil, cottonseed ("Wesson")	3
Drugs, suspected	2	Oil, rapeseed	4
Dyes	4	Oranges, fresh	486
Eggs, fresh and salted	22	Paprika, ground	2
Eggs, dried yolk	2	Pastes, meat and fish	309
Egg powder ("Crysova")	1	Peanuts in shell	1
Eggs, dried whole	8	Peas, canned	2
Egg product ("Glaze")	1	Pepper, black ground	1
Essences, powdered	1	Pepper, black whole	5
Extract, vanilla compound	1	Pepper, white ground	1
Feeding stuffs, commercial	72	Pepper, white whole	6
Fertilizers, agricultural	37	Pineapple, canned	1
Figs, dried whole	24	Port ("Wilson's Tonic")	1
Figs, prepared	3	Rice	1
Flavouring syrup ("400")	1	Sage, rubbed	1
Flavourings	1	Salmon, canned	1

VANCOUVER—*Concluded*

Salmon, smoked	1	Tomatoes, fresh whole	1
Sausage	3	Tomato paste, Italian	2
Seasoning, sausage	1	Vanilla beans	4
Soil, muck	1	Vinegar, malt	1
Spaghetti, canned	1	Walnuts meats	42
Spices, ground	2	Walnuts, in shell	6
Sugar, refined	10	Whiskey	4
Tomatoes, canned	1	Wine	1
Totals			1,453

SPECIAL OBSERVATIONS

Jams and Jellies.—Upwards of 100 samples of jam and jelly were examined in which nothing of an injurious nature was detected. The chief criticism to be offered is that all indications point to a large quantity of prepared pectin being used by many jam manufacturers. While there is nothing harmful about the pectin itself, its presence does away with the necessity of a considerable percentage of fruit when attempting to get a jam of heavy consistency. Consequently, the consumer is often paying for sweetened pectin when what he wants is a pure fruit jam. In some ways, it is a difficult matter to control, but work is being done along this line and the future outlook is promising.

Several samples of jam were found to contain glucose without the presence of this ingredient being stated on the label. Prosecution proceedings were instituted with the result that fines were imposed and the jams properly labelled. From the manufacturer's viewpoint, glucose has several points to recommend it, chief among which are its low price and its ability to resist crystallization. Unfortunately its presence in any considerable quantity gives a decidedly inferior flavour to the produce and is consequently not considered a proper ingredient in *pure* jams.

Cider Vinegar.—Out of a collection of 47 samples of cider vinegar, only 17 proved to be genuine. Prosecution proceedings were instituted and fines collected in all cases of adulteration. When it is remembered that the manufacture of cider vinegar provides one way at least of utilizing a large part of the apple crop which may not be directly saleable, it will be recognized that to allow a cheaper adulterated article to be offered for sale under the same name is to place a severe handicap upon the cider vinegar industry and consequently upon the fruit grower.

Diluted acetic acid, coloured with caramel, seems to be one favourite method of simulating a pure cider vinegar, just sufficient cider vinegar to give a slight flavour and colour of the genuine article.

A close watch has been kept upon this particular product with the result that the market is much freer of the adulterated article than was the case a year ago.

Hamburg Steak and Sausages.—Certain manufacturers of prepared meats are still persisting in the use of colour and preservative in the preparation of their products. The *preservative* generally used is sodium bisulphite. The object of the preservative is, of course, to prevent fermentation in the meat, but such large quantities have been found at times as to suggest that the meat must have been tainted before being prepared, and so have required additional preservative to keep it from becoming unsaleable altogether.

When *colour* is used in meat preparations, neither the amount nor the nature of it are sufficient to be at all harmful to health. The chief objection, however, lies in the fact that they give the appearance of being smoked without the characteristic flavour or keeping quality.

Camphorated Oil (*Linimentum Camphorae*).—During the year 20 samples of this product were examined in the Ottawa laboratory. Unless otherwise designated, camphorated oil is required to conform to the requirements of the British Pharmacopoeia. Examination of the samples shows that there is still considerable adulteration practised. Possibly this is more often due to ignorance on the part of druggists than to a wilful disregard of requirements of the Pharmacopoeia. The chief defect found in the samples examined was the deficiency of camphor, in some cases the samples contained only half the amount of camphor required. In addition some of the samples were prepared by dissolving the camphor in cotton seed oil or in mineral oil. While the use of cotton seed oil is prescribed by the United States Pharmacopoeia, the British only permits the use of olive, sesame or peanut oil. Camphorated oil prepared with cotton seed oil complies with the requirements of the Food and Drugs Act if the letters U.S.P. are added to the name on the label.

Ground Ginger.—A collection of thirty-five samples of ground ginger was examined to determine the conformity of this article to the standards. The principal adulteration to which ginger is subjected at the present time is the exhaustion of the root by means of water or alcohol. The chief means of detecting this is a determination of the cold water extractive matter. In the samples examined the maximum percentage of cold water extract (dry basis) was 19·23 per cent and the minimum 11·69 per cent. Nine of the samples, however, contained slightly less water extractive matter than the standard of 13·3 per cent. Another point worthy of note is that much of the ground ginger is evidently prepared from the limed ginger root. In four of the samples the amount of lime present exceeded 2 per cent, the limit prescribed for limed ginger. There was no evidence of adulteration with foreign tissues.

Diabetic Foods.—Four samples of flour and three samples of bread sold for the use of sufferers from diabetes mellitus were examined. It is evident that there is still considerable ignorance or disregard of the regulations regarding this class of foods. Besides specifying the composition of gluten and gluten flour, the regulations require that diabetic foods offered for sale as breads, biscuits, cakes or otherwise, must contain not more than half as much glycogenic carbohydrates (sugars and starch) as the normal food of the same class.

Contract Samples.—One hundred and three samples of miscellaneous supplies purchased by various Government departments were examined to determine their conformity to specification. The knowledge that the articles supplied will be subject to analysis and that the shipment will be rejected if not in accordance with specification has considerable effect in raising the quality of the product supplied. As a result of these analyses, large sums of money have been saved and the value of analytical control of the purchase of supplies is becoming increasingly evident. The samples examined consisted mainly of soaps, paint materials and lubricating oils.

Canned Foods.—The rapid growth of the canning industry has made it necessary to give more attention to the sanitary aspect of food control. Almost every fresh food used is on the market in some state or form of preservation, i.e., canned, dehydrated or preserved and practically every such article when canned, processed and sterilized on scientific principles is a perfectly good and nutritious food. On the other hand, in the case of some canned goods, it is possible for an unscrupulous or careless canner to so process and spice inferior or decayed stock, such as tomato paste, that the finished product will be sterile and more or less attractive to the taste. Consequently the old plate culture methods are almost useless in the detection of this kind of adulteration. Greater

weight is now given to the direct microscopical method. This, coupled with factory inspection, whenever possible, constitutes the most efficient way of controlling this class of foodstuffs. As knowledge of heat penetration in the processing of various canned foods increases, and as data on the thermal death-point of the different strains of organisms found on certain foods accumulate, the canner is enabled to sterilize scientifically and consequently has less and less excuse for putting on the market foodstuffs not wholly satisfactory.

During the past year a great deal of food, canned and dehydrated was destroyed as being unfit for human consumption. Whenever the safety factor was assurred, sorting under supervision was permitted. The general policy of destroying all food that could not be declared sound and wholesome in every respect has been followed.

Burma or Rangoon Beans often contain dangerous amounts of hydrocyanic (prussic) acid. Hence it has been necessary to examine all importations of beans entering Canada and prohibit those containing more than 20 parts per million of hydrocyanic acid. Activity in this direction has practically elminated these objectionable beans from the Canadian market.

Milk of Magnesia.—A limited collection of this article was made in order to ascertain the quality of the article as manufactured in Canada. Representative samples were taken and examined according to the U.S.P., 9th edition. All samples were found to meet the essential requirements. No extravagant therapeutic claims were made on the labels so that the article as sold locally (Ottawa) may be considered satisfactory.

Black Pepper was examined extensively throughout the country in 1917. Bulletin 379 contains these results and gives the percentage of adulteration as 13·9. A collection was made last August when some 70 samples were analysed and only two were declared adulterated.

Nutmegs.—It was found that shipments of this article which had been refused entry into the United States were being diverted to this country. The inspectors were immediately advised, with the result that several importations of nutmegs, unfit for food, were prohibited entry.

Dried Egg Products (egg albumen, flake egg, egg yolk, etc.).—Importations of these articles have received much attention. Because of the fact that these products were found to carry excessive quantities of zinc due to the method of dehydration in practice in the Orient, a zinc limit of 150 parts per million was put into force. Shortly after the United States and Canada began to refuse entry to these objectionable goods, a marked improvement in the quality became evident; due doubtless to the installation of modern methods of dehydration.

Nuts.—It has been found necessary to examine importations of nuts in the shell in order to prevent entry of low grade nuts, quantities of which were found on the market, and our efforts in this direction resulted in keeping out of Canada large quantities of low grade nuts. It is quite possible for this class of foodstuff to appear sound to the casual glance, yet the meats may be moldy, rancid or shrivelled. The buyer is thereby deceived, even though the article is sold cheaply. The average housewife does not always realize that a cheap article may prove more expensive in the end than the higher priced and better grade.

(10) PUBLIC WORKS HEALTH ACT

Following is a precis of the report upon the medical services and hygienic arrangements of the Welland canal, made by the Inspector of the Department of Health.

The section of canal now under construction covers a distance of approximately 13 miles, beginning at Port Weller on lake Ontario and extending in a southerly direction and ending at Port Robinson. This section is divided into subsections known as subsections 1 and 2, extending from Port Weller to North Thorold; subsections 3 and 4, extending from North Thorold to Allanburg; and subsection 5, extending from Allanburg to Port Robinson. The medical services covering these sections are arranged as follows:—

(*a*) A general hospital, with medical and nursing staff, placed at Homer, midway on the work of the three sections and in such a position as to allow easy transportation facilities. This hospital also constitutes the administrative centre of the service. The staff consists of:—

Medical staff—Chief medical officer, assistant medical officer.

Nursing staff—Matron in charge, assistant nurse, night nurse, as occasion demands.

Sub-staff—Cook, orderly and general man, additional help as occasion demands.

(*b*) A first-aid office at Thorold with an orderly in charge. Daily visits are made by one of the physicians. The services of a local physician are retained, as well, in cases where the attending physician cannot be reached at any time.

(*c*) Ambulance service consisting of the use of a gasoline track ambulance, a horse ambulance and the use of the Thorold motor ambulance as occasion requires.

ACTIVITIES OF THE SERVICE

These embrace sanitation and preventive medicine; medical attention and hospital care of the sick and injured; medical attention, care and special documentation of accident cases coming within the purview of the Workmen's Compensation Board; medical attention, care; reviewing of Pension Allowance; special reports, etc., of returned soldiers.

(1) *Sanitation and Preventive Medicine.*—Personal visits of inspection are made and attention drawn to any unsanitary condition or suggestion for improvement given. In addition to this, pamphlets are issued from time to time affording advice and instruction to all concerned. At intervals of a few months an inspector of the Provincial Board visits the hospital and tours the sections. It is his duty to investigate not only the sanitary arrangements, but also those for the care of the sick and injured.

(2) *Medical Attention and Hospital Care of the Sick and Injured.*—This is carried out in the following way:—

(1) By first-aid, administered by some responsible person in charge of a first-aid medical chest.

(2) By the regular trips of a doctor over the work, such visits being systematically carried out twice a week. Numerous cases of minor illness or injury are seen and attended to. In this connection it is pointed out that, owing to the convenience of the Thorold first-aid office to the work and homes of the men, employees, as a rule, prefer to go to this office in the evening for medicines or dressings than to be attended to while at work.

(3) By special visits of a doctor to those suddenly taken ill or injured on the work. The number of these attendances is as follows:—

From the hospital	198
From the Thorold office	206
Total	404

(4) By visits to the sick and injured at their homes. Many men prefer to be with their relations rather than in hospital and it is the policy of this service to comply with their wishes in this respect so long as the patient's recovery is not retarded thereby. The number so attended is as follows:—

From the hospital	257
From the Thorold office	986
Total	1,243

(5) By attention given to the sick and injured coming as out-patients to the hospital or the Thorold office. These men attend for the treatment of minor or more chronic complaints, and for surgical dressings. The number is as follows:—

At the hospital	513
At the Thorold office	1,867
Total	2,380

(6) By the attention and care given in the wards of the hospital. These cases constitute the more serious cases of disease or injury. The hospital records give the following figures:—

Month	In Hospital	Admitted	Discharged	Died
April	Nil	1	Nil	Nil
May	1	Nil	"	"
June	1	"	1	"
July	Nil	1	1	"
August	"	6	4	"
September	2	5	5	"
October	2	3	1	"
November	4	4	3	"
December	5	8	9	"
January	4	8	7	"
February	55	4	3	"
March to 15th	5	5	Nil	1 (15th)
Totals	(Not applicable)	45	34	1

*Hospital days, 885.
*NOTE.—A hospital day signifies the care of one patient for one day.

Particulars of attention given	April 1, 1920, to Mar. 15, 1921	Mar. 15, 1921, to Mar. 31, 1921	Totals
Special visits to sick or injured on the work	404	26	430
Men visited at their own homes	1,243	60	1,303
Out-patients attended at the hospital or Thorold office	2,380	120	2,500
Bed-patients in the hospital	45	6	51
Hospital days	885	42	927

The first point of call of the inspector was to the hospital at "Homer," which is situated at a point about midway of the work and at a distance of

three miles from St. Catharines. It consists of an office, waiting-room, three wards and an operating room. Each ward comprises ten beds, making thirty in all. At the time of the inspector's visit there were ten beds in use. The patients were chiefly surgical cases; a number of fractures and one amputation. There is, unfortunately at present, not any "infectious disease" hospital, nor any suitable arrangement for reception of infectious patients in the present hospital. It is customary to place infectious patients in tents. Dr. McCombe, who is the physician in charge of the medical services, informed the inspector that there was at one time a small building used for this purpose, but this has outlived its usefulness. Dr. McCombe has brought the need for such a building to the attention of the contractors and engineers in charge of the work and is hoping that this need will soon be met.

The inspector's next visit was one of inspection of the quarters of the employees and the hygienic arrangements and medical services of sections 1 and 2; 3 and 4; and 5, which comprise all of the work now going on.

Sections 1 and 2 begin at Port Weller and extend to North Thorold. There are under construction in this area two huge concrete locks. Lock No. 1 is situated at Port Weller. There are employed over this area approximately 800 men. Of these 800, over 575 live in St. Catharines, leaving approximately 225 living in quarters in these sections. The quarters consist of sleeping cabins, dining-rooms and latrines, each separate and distinct buildings. The sleeping quarters, with one exception, are long, one-storey wooden buildings, approximately twelve feet in height at the highest point. The lighting is adequate, but the only ventilation is that provided by doors and windows. The beds consist of double decker bunks, placed along the walls. In some cases the building is partitioned into private rooms, each room containing two bunks. In some buildings individual sinks for ablution purposes are provided at one end of the building; in others, a trough with individual water taps is in use. The buildings are well lighted, but facilities for ventilation are inadequate. Louvred openings in the roof would be helpful. Bed coverings and personal linen are laundered in St. Catharines. Bed coverings are supplied by the contractors and are plentiful.

At lock No. 2 in this section there is an old farm house which is used for housing the employees of one of the subcontractors, Aikens and Innes. This building is antiquated, dilapidated, filthy, badly lighted—nearly all windows boarded up to replace broken glass—badly ventilated—holes in boarded windows stuffed with old bags—and totally unfit for human habitation. The engineer told the inspector that this building would not be used after last fall as the contract in that district would shortly be completed.

Dining-rooms.—These are first-class in every way; clean; well lighted and ventilated; windows screened from flies; facilities provided for ablution before meals; water for washing dishes, chlorinated.

Latrines.—These are well constructed, small outhouses. The majority are built over a pit but a number are provided with buckets. With few exceptions, they are screened from flies and chlorinated. As a matter of fact, the men defæcate to a great extent in the open, especially during the summer months, which is not devoid of danger during the fly season.

Water Supply.—Water was originally supplied by superficial wells consisting of a pipe sunk in the ground with pump attached. There were twelve of these. In July and August of 1921, there was an epidemic of diarrhœa of somewhat alarming proportions and, in consequence, the well water was examined and, as a result, ten of the twelve wells were condemned. The water is now brought to these two sections from St. Catharines in barrels. The barrels

are frequently chlorinated. In addition, there is a large tank which is filled with water from lake Ontario. Each time this tank is filled, the water is chlorinated. This water is used chiefiy for ablution purposes, but may safely be used for drinking. The ground around the buildings is kept free from rubbish.

Sections 3 and 4.—There are employed in these sections about 850 men, nearly all of whom live in Thorold. There is only one camp and dining-room in these sections. This is known as Rigby's camp. There are only 28 men living here. The buildings and out-houses are clean, well lighted and there is no over-crowding. At a central point in these two sections there is a "first-aid" hospital. This is in charge of an orderly who looks after the patient and does whatever is necessary while awaiting the arrival of the physician. In serious cases a local physician, who is employed for this purpose, is called.

Section 5.—This section extends from Allanburg to Port Robinson. Dredging only is being done on this section and the majority of the 200 men employed in that work live on dredges or tugs. The drinking water for the dredges and tugs is taken from the town of Thorold. Sewage from these barges and tugs is thrown into the canal, but as the canal water is not used for drinking purposes, no harm results.

A number of men employed on this section, approximately 40 in number, sleep and eat in an old hotel, known as Campbell's Hotel. This building is about one hundred years old. It is very dilapidated and in its present condition considered unfit for use. Unless thoroughly cleaned and renovated and the number of inhabitants restricted, it was recommended that it be condemned.

CONCLUSION

The inspector found that the provisions and regulations of "The Public Works (Health) Act" were with one or two exceptions, satisfactorily carried out. Ample provision is made for medical attendance, both in hospitals, in the homes and at the emergency first aid stations.

The hygienic arrangements of the several camps are, in the main, good. Provision is made for a pure water supply and the sewage from buildings and boats is in no way injurious to the health of the employees.

(11) FINANCIAL STATEMENT

STATEMENT of Expenditure for the Fiscal Year 1922-23

Service	Gross Expenditure	Refunds to Appropriations	Net Expenditure
	$ cts.	$ cts.	$ cts.
The administration of the Acts respecting Food and Drugs, Honey and Maple Products and Opium and Narcotic Drugs	114,432 63	2,868 04	111,564 59
Proprietary or Patent Medicines	2,633 51	.....	2,633 51
Marine Hospitals, including grants to institutions assisting sailors	118,350 66	3,623 88	114,726 78
Quarantine: Salaries and contingencies of organized districts; Public health in other districts; Tracadie and D'Arcy Island Lazarettoes; Public Works Health Act	227,328 83	2,326 83	225,002 00
Immigration Medical Inspection	50,025 15	93 43	49,931 72
Medical Research—Standardizing and Testing Laboratory	1,630 16	18 46	1,611 70
Venereal Diseases	189,927 85	.....	189,927 85
Civil Government Salaries	129,317 12	.....	129,317 12
Civil Government Contingencies	53,354 04	1,344 89	52,009 15
Provisional Bonus Allowance	21,677 18	671 56	21,005 62
Miscellaneous Gratuities	453 33	.....	453 33
Reclassification Arrears	900 00	.....	900 00
Superannuation No. 4	3,606 72	.....	3,606 72
Medical Research Committee	2,000 00	.....	2,000 00
Canadian National Council of Child Welfare	5,000 00	.....	5,000 00
Canadian National Council for Combating Venereal Diseases	5,000 00	.....	5,000 00
	925,637 18	10,947 09	914,690 09

STATEMENT of Revenue Collected from Various Sources for the Fiscal Year 1922-23

Service	Total Revenue	Refunds	Net Revenue
	$ cts.	$ cts.	$ cts.
"A"—Food and drugs	15,833 53	90 00	15,743 53
"B"—Opium and narcotic drugs	18,875 64	1,390 00	17,485 64
"C"—Patent medicines	6,679 00	159 00	6,520 00
"D"—Sick Mariners' dues	161,758 85	748 92	161,009 93
"E"—Casual revenue	5,436 89	212 98	5,223 91
Total	208,583 91	2,600 90	205,983 01

"A"—FOOD AND DRUGS REVENUE FOR 1922-1923

—	Analysis	Fines and Forfeitures	Costs	Total
	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia	30 00	150 00	60 00	240 00
New Brunswick	10 00	100 00	40 00	150 00
Prince Edward Island	.....	50 00	20 00	70 00
Quebec	102 00	2,632 96	920 00	3,654 96
Ontario	7,658 15	2,250 00	1,087 67	10,995 82
Manitoba	287 00	150 00	60 00	497 00
Saskatchewan	11 00	75 00	9 75	95 75
British Columbia	40 00	75 00	10 00	125 00
Foreign	5 00	.....	.....	5 00
	8,143 15	5,482 96	2,207 42	15,833 53
Less Refunds	.....	75 00	15 00	90 00
	8,143 15	5,407 96	2,192 42	15,743 53

"B"—OPIUM AND NARCOTIC DRUGS REVENUE

	Business Licenses	Import Licenses	Export Licenses	Fines and Forfeitures	Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia	90 00	.....	.....	567 50	657 50
New Brunswick	120 00	.....	.....	252 20	372 20
Quebec	1,160 00	605 00	30 00	4,287 00	6,082 00
Ontario	1,050 00	165 00	5 00	5,267 50	6,487 50
Manitoba	235 00	.....	.....	1,400 00	1,635 00
Saskatchewan	115 00	.....	.....	1,104 36	1,219 36
Alberta	145 00	.....	.....	662 50	807 50
British Columbia	120 00	.....	.....	1,489 58	1,609 58
Foreign	.....	5 00	.....	.....	5 00
	3,035 00	775 00	35 00	15,030 64	18,875 64
Less Refunds	.....	5 00	.....	1,385 00	1,390 00
	3,035 00	770 00	35 00	13,645 64	17,485 64

"C"—PATENT MEDICINES REVENUE

	Fines and Forfeitures	Registration Fees at $2 each	License Fees at $1 each	Total
	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia	.....	36 00	133 00	169 00
New Brunswick	.....	20 00	142 00	162 00
Prince Edward Island	.....	10 00	7 00	17 00
Quebec	51 00	498 00	1,404 00	1,953 00
Ontario	.....	716 00	2,094 00	2,810 00
Manitoba	10 00	80 00	185 00	275 00
Saskatchewan	.....	22 00	38 00	60 00
Alberta	.....	44 00	84 00	128 00
British Columbia	.....	60 00	135 00	195 00
Foreign	.....	172 00	738 00	910 00
	61 00	1,658 00	4,960 00	6,679 00
Less Refunds	.....	64 00	95 00	159 00
	61 00	1,594 00	4,865 00	6,520 00

"D"—SICK MARINERS' DUES REVENUE

	Total Revenue	Refunds	Net Revenue
	$ cts.	$ cts.	$ cts.
Nova Scotia	35,657 76	390 30	35,267 46
New Brunswick	20,594 42	76 84	20,517 58
Prince Edward Island	757 12	.....	757 12
Quebec	54,432 88	179 30	54,253 58
British Columbia	50,316 67	102 48	50,214 19
	161,758 85	748 92	161,009 93

"E"—CASUAL REVENUE

	Total Revenue	Refunds	Net Revenue
	$ cts.	$ cts.	$ cts.
Sale of properties	3,500 00	.....	3,500 00
Sale of sundries	15 00	.....	15 00
Fumigation certificates	30 00	.....	30 00
Miscellaneous refunds to previous years appropriations	1,891 89	212 98	1,678 91
	5,436 89	212 98	5,223 91

STATEMENT Showing the Net Amount of Sick Mariners' Dues Collected at Each Port and Outport

PROVINCE OF NOVA SCOTIA

Ports and Outports	Net Revenue	Ports and Outports	Net Revenue
	$ cts.		$ cts.
Amherst		Kentville	
Tidnish	4 00	Kingsport	86 14
Pugwash	46 96		
Joggins Mines	71 84		
	122 80	Liverpool	201 92
		Port Medway	16 84
Annapolis Royal	8 12		218 76
Clementsport	10 02		
Port Wade	4 00	Lockeport	23 04
Bridgetown	4 24		
	26 38	Lunenburg	458 46
		LaHave	204 92
Arichat	2 00	Mahone Bay	7 42
St. Peters	59 28	Riverport	24 24
River Bourgeois	4 00		695 04
Descousse	2 00		
L'Ardoise	2 00	North Sydney	1,504 96
Petit de Grat	16 00	Little Bras d'Or	83 76
	85 28		1,588 72
Baddeck	2 00		
Munroe's Point	259 22	Parsboro	343 38
	261 22	Apple River	31 00
		Port Greville	17 36
Barrington Passage	12 88	Spencer's Island	21 86
Wood's Harbour	8 78	Advocate Harbour	7 08
Clark's Harbour	14 26	Five Islands	11 50
Shag Harbour	0 22		432 18
Port LaTour	3 24		
	39 38	Pictou	243 14
		Tatamagouche	2 10
Bridgewater	69 32		245 24
Canso	61 44	Port Hawkesbury	18 28
Liscomb	10 56	Port Hastings	115 36
Larry's River	2 00		133 64
Guysborough	14 18		
Sherbrooke	38 74	Port Hood	
Queensport	2 00	Cheticamp	24 00
	128 92	Margaree	6 00
		Grand Etang	5 00
Digby	162 64		35 00
Bear River	17 92		
Westport	27 30	Shelburne	72 38
Freeport	8 70	North East Harbour	3 88
Tiverton	4 00	Sandy Point	53 24
	220 56		129 50
Halifax	21,846 54		
Sheet Harbour	51 76	Sydney	5,565 20
Spry Bay	4 00	Louisburg	943 76
Ingram Port	13 78		6,508 96
Mosers River	2 00		
Hubbards	7 76	Truro	
Port Dufferin	4 22	Little Bass River	31 98
	21,930 06		

NOVA SCOTIA—*Continued*

Ports and Outports	Net Revenue	Ports and Outports	Net Revenue
	$ cts.		$ cts.
Weymouth	18 38	Yarmouth	322 20
Church Point	10 76	N.E. Pubnico	9 94
Meteghan	14 22	Wedgeport	2 94
Belliveau's Cove	31 40	Abbotts Harbour	0 32
Salmon River	4 00	Port Maitland	8 00
	78 76		343 40
Windsor	1,005 14		
Walton	354 44		
Hantsport	472 72		
Cheverie	2 00		
Noel	16 42		
	1,850 72		

PROVINCE OF NEW BRUNSWICK

Bathurst	94 14	Newcastle	291 04
Caraquet	20 00		
Shippegan	2 00	Sackville	
	116 14	Port Elgin	6 08
			75 62
Campbellton	392 20	St. Stephen	
Dalhousie	150 82	St. Andrews	23 24
	543 02	Grand Harbour	8 00
		North Head	32 32
Chatham	657 58	Lord's Cove	20 00
Richibucto	133 46		83 56
Buctouche	10 02		
	801 06	St. John	17,958 36
		St. George	80 46
Fredericton	5 32	St. Martins	142 52
		Beaver Harbour	12 00
Moncton	5 68	Chance Harbour	8 00
Hillsboro	353 26		18,201 34
Alma	64 82		
Shediac	26 66		
Albert	3 28		
Waterside	15 16		
Harvey	28 60		
	497 46		

PROVINCE OF PRINCE EDWARD ISLAND

Charlottetown	486 38	Summerside	17 50
Souris	33 34	Miminegash	10 00
Crapaud	4 24	Alberton	13 30
Grand River	2 66	Tignish	2 00
Murray River	4 40		42 80
Murray Harbour	6 00		
Georgetown	18 86		
Montague	36 32		
Vernon River Bridge	1 52		
	593 72		

PROVINCE OF QUEBEC

Port and Outports	Net Revenue	Port and Outports	Net Revenue
	$ cts.		$ cts.
Gaspe	397 90	Rimouski	105 82
		Matane	131 90
Montreal	40,772 40		237 72
Paspebiac	112 72		
Carleton	4 00	Sorel	13 12
Port Daniel	5 88		
New Richmond	73 98	St. Johns	1,077 28
	196 58	Three Rivers	1,009 54
Quebec	9,025 20		
Chicoutimi	239 04		
Port Alfred	833 56		
Seven Islands	219 80		
Magdalene Islands	69 98		
Bonne Esperance	88 34		
Levis	73 12		
	10,549 04		

PROVINCE OF BRITISH COLUMBIA

Nanaimo	1,731 46	Vancouver	26,213 48
Chemanius	150 22	Alert Bay	6 00
Union Bay	666 06	Powell River	329 28
Ladysmith	598 18	Britannia Beach	11 52
Port Alberni	515 94		26,560 28
Kildonan	235 84		
	3,897 70		
New Westminster	530 54	Victoria	17,606 85
White Rock	80 26	Tofino	25 54
Stevetson	34 40	Sidney	368 48
	645 20	Quatsino	226 46
		Port Renfrew	6 00
Prince Rupert	603 54		18,233 33
Anyox	83 36		
Ocean Falls	190 78		
	877 68		

REPORT

OF THE

SUPERINTENDENT OF PENITENTIARIES

FOR THE

FISCAL YEAR ENDED MARCH 31

1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1924

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to lay before Your Excellency the Annual Report of the Superintendent of Penitentiaries for the fiscal year ended March 31, 1923, made by him in pursuance of the provisions of section 19 of the Penitentiary Act.

I have the honour to be, sir,

Your Excellency's most obedient servant,

LOMER GOUIN,
Minister of Justice.

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REPORT

OF THE

SUPERINTENDENT OF PENITENTIARIES

FOR THE

FISCAL YEAR ENDED MARCH 31, 1923

To the Hon. Sir LOMER GOUIN, K.C.M.G., K.C.,
Minister of Justice.

HONOURABLE SIR,—I have the honour to submit reports and statistics regarding the administration of penitentiaries for the fiscal year ended March 31, 1923.

The number of inmates in custody at the close of the fiscal year was 2,486, as compared with 2,640 at the beginning of the year. The average daily population was 2,582.

The following table shows the movement of population at the several penitentiaries:—

—	Kingston	St. Vincent de Paul	Dorchester	Manitoba	British Columbia	Saskat-chewan	Total
In custody, April 1, 1922	855	687	435	224	197	242	2,640
Received							
From jails	279	205	160	68	112	111	935
By transfer	12	1	.....	9	.....	75	97
By forfeiture of parole	.....	3	3	3	.....	1	10
By revocation of license	5	.....	.....	1	.....	.....	6
From reformatory	.....	.....	3	.....	.....	.....	3
By recapture	2	.....	.....	.....	.....	.....	2
Discharged							
By expiry of sentence	109	94	49	32	31	27	342
By parole	192	138	175	40	47	42	634
By deportation	35	20	6	9	13	6	89
By death	4	11	4	2	.....	.....	21
By pardon	3	.....	2	.....	.....	.....	5
By transfer (to other penitentiary)	77	8	.....	1	.....	11	97
By order of court	1	.....	1	1	1	4	8
By escape	.....	.....	1	.....	.....	.....	1
By return to Provincial authorities	3	.....	.....	2	1	4	10
Remaining March 31, 1923	729	625	363	218	216	335	2,486

PARTIAL LIST OF FARM PRODUCTS, 1922-23

Item	Kingston	St. Vincent de Paul	Dorchester	Manitoba	British Columbia	Saskatchewan	Totals
Potatoes	104,963 lbs.	30,960 lbs.	132,000 lbs.	171,420 lbs.	105,680 lbs.	275,280 lbs.	820,303 lbs.
Turnips	15,000 "	135,760 "	550,000 "	36,600 "	46,000 "	21,550 "	804,910 "
Carrots	39,794 "	10,488 "	1,920 "	6,100 "	16,000 "	24,500 "	98,802 "
Onions	20,682 "	770 "	.....	18,750 "	2,000 "	3,000 "	45,202 "
Beets	31,320 "	16,000 "	35,425 "	18,600 "	6,000 "	16,050 "	123,395 "
Parsnips	6,172 "	.....	.....	.....	6,000 "	12,375 "	24,547 "
Cabbage	35,734 "	7,994 hds.	18,281 "	8,000 "	12,000 "	6,500 hds.	74,015 "
							14,494 hds.
Corn	9,220 "	.....	.....	.....	.....	.....	9,220 lbs.
Tomatoes	33,348 "	24,539 lbs.	726 "	.....	.....	.....	58,613 "
Beans	6,190 "	7,766 "	365 "	.....	.....	.....	14,321 "
Mixed vegetables	9,147 "	18,962 hds.	831 "	1,000 "	11,600 "	.....	22,578 "
							18,962 hds.
Hay	157 tons	178 tons	650 tons	70 tons	20 tons	285 loads	285 loads
							1,075 tons
Oats	4,928 bush.	876 bush.	2,600 bush.	6,245 bush.	340 bush.	11,247 bush.	26,236 bush.
Wheat	150 "	.....	.....	.....	.....	560 "	710 "
Barley	1,641 "	90	75 "	2,298 "	400 "	1,350 "	5,854 "
Mixed grains	20 "	41 "	450 "	.....	.....	.....	511 "
Young pigs	.....	.....	202 hd.	.....	.....	.....	202 hds.
Pork	36,960 lbs.	26,676 lbs.	1,013 lbs.	7,508 lbs.	12,685 lbs.	.....	84,842 lbs.
Hogs	.....	42 hds.	.....	58 hds.	.....	.....	100hds.
Straw	83 tons	75 tons	.....	.....	.....	.....	158 tons
Milk	.....	.....	15,052 qts.	.....	.....	.....	15,052 qts.
Cream	.....	.....	341 "	.....	.....	.....	341 "

HOSPITAL

—	Cases treated in dispensary	Cases treated in hospital	Per capita cost
Kingston	7,229	699	$1 18
St. Vincent de Paul	7,603	336	1 27
Dorchester	3,488	44	1 33
Manitoba	1,745	210	0 49
British Columbia	1,254	7	38
Saskatchewan	3,872	27	79

NATIONALITY (Place of Birth)

British—		
Canada	1,471	
England and Wales	165	
Ireland	34	
Scotland	58	
Other British countries	24	
		1,752
Foreign—		
United States	252	
Austria-Hungary	105	
Russia	121	
Italy	69	
Roumania	28	
China	43	
Other foreign countries	116	
		734
		2,486

DURATION OF SENTENCE

Two years	568	
Over two and under three years	49	
Three and under four	558	
Four and under five	149	
Five and under eight	668	
Eight and under ten	29	
Ten and under twelve	135	
Twelve and under fifteen	57	
Fifteen and under twenty	63	
Twenty and under twenty-five	31	
Twenty-five and over	25	
Life	154	
		2,486

AGE

Under twenty years	282
Twenty to thirty years	1,158
Thirty to forty years	580
Forty to fifty years	292
Fifty to sixty years	127
Over sixty years	47
	2,486

SOCIAL HABITS

Abstainers	593
Temperate	1,309
Intemperate	584
	2,486

CIVIL STATE

Single	1,577
Married	809
Widowed	100
	2,486

RACIAL

White	2,303
Coloured	87
Indian (East)	3
Indian	44
Mongolian	49
	2,486

CREEDS

Christian—		
Roman Catholic	1,176	
Church of England	367	
Methodist	235	
Presbyterian	282	
Baptist	131	
Lutheran	50	
Greek Catholic	88	
Other Christian creeds	58	
		2,387
Non-Christian—		
Buddhist	34	
Hebrew	59	
Other non-Christian creeds	6	
		99
		2,486

EXPENDITURE, 1922–23

	Gross Expenditure	Revenue	Net Expenditure
	$ cts.	$ cts.	$ cts.
Kingston	422,450 76	60,914 15	361,536 61
St. Vincent de Paul	434,201 23	15,375 03	418,826 20
Dorchester	247,882 02	18,265 64	229,616 38
Manitoba	193,249 92	19,789 80	173,460 12
British Columbia	129,553 59	4,293 38	125,260 21
Saskatchewan	292,757 20	10,493 72	282,263 48
			1,590,963 00
Alberta	3,004 61	11,021 60	—8,016 99
	1,723,099 33	140,153 32	1,582,946 01

COMPARATIVE STATEMENT OF NET EXPENDITURE

	1920-21	1921-22	1922-23
	$ cts.	$ cts.	$ cts.
Kingston	378,011 34	341,901 91	361,536 61
St. Vincent de Paul	303,219 34	412,708 60	418,826 20
Dorchester	215,173 33	279,217 56	229,616 38
Manitoba	128,070 91	142,948 53	173,460 12
British Columbia	134,339 27	110,219 83	125,260 21
Saskatchewan	249,557 84	221,462 24	282,263 48
		1,508,458 67	1,590,963 00
Alberta	49,609 09	−3,639 67	−8,016 99
Totals	1,457,981 12	1,504,819 00	1,582,946 01
Average daily population	2,058	2,417	2,582

PER CAPITA STATEMENT

	Kingston	St. Vincent de Paul	Dorchester	Manitoba	British Columbia	Saskatchewan
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Staff	255 09	286 44	274 68	434 96	371 96	343 72
Maintenance of convicts	76 84	90 71	80 59	128 89	101 31	114 40
Discharge expenses	21 12	6 25	12 32	25 42	4 31	17 22
Working expenses	72 13	100 64	87 34	169 07	63 54	109 74
Industries	50 08	40 39	36 41	41 40	22 28	51 53
Land, buildings and equipment	72 81	119 82	129 93	114 29	23 21	371 56
Miscellaneous	3 96	3 98	7 33	7 63	6 00	4 46
Revenue per capita	78 00	23 09	45 55	87 69	19 51	36 44

ACTUAL COST

Supplies on hand April 1, 1922	$ 412,930 29	
Net expenditure, 1922–23	1,582,946 01	
		$1,995,876 30

DEDUCT

Supplies on hand, Mar. 31, 1923	$ 428,975 37	
Estimated value of labour on production of capital and revenue	125,000 00	
		$ 553,975 37
Net cost		1,441,900 93
Cost per capita		558 44
Cost per capita per diem		1 53

COMPARATIVE SUMMARY

	1921	1922	1923
	$ cts.	$ cts.	$ cts.
Gross expenditure	1,620,690 00	1,655,188 00	1,723,099 00
Net expenditure	1,457,981 00	1,504,819 00	1,582,946 00
Actual cost	1,503,372 00	1,364,996 00	1,441,900 00
Cost per capita	730 50	564 75	558 44
Cost per capita per diem	2 00	1 55	1 53
Average daily population	2,058	2,417	2,582

The average prison population for the year 1922-23 was 2,582, the highest yet attained in Canadian penitentiaries.

The cost per capita per diem was $1.53.

This is a reduction of two cents as compared with last year.

On account of the overcrowding at Kingston penitentiary, it was decided to transfer seventy-five inmates to Saskatchewan, where there was accommodation, and where the building programme being carried on at that institution provided ample employment.

An extensive construction programme—to provide new and up-to-date accommodation, remodel old buildings, and systems to improve ventilation, sanitation, light, heating, and water systems—has been vigorously carried on throughout the year.

At British Columbia, about five hundred feet of the new boundary wall has been built; new bathing system installed; new quarters for the chief keeper's department provided; deputy warden's house thoroughly repaired and renovated; and remodelling of workshops to improve same, and make them fireproof, has been begun.

At Saskatchewan, the cell dome, 75 feet by 75 feet, has been finished; administration wing completed and occupied; new segregation cell wing built; excavation for new wall and building of a portion of foundation for same have been done; 410,000 bricks of excellent quality made.

At Manitoba penitentiary, work on the new cell wing, containing 208 standard cells, has been prosecuted satisfactorily; new garage begun; transformer room and storehouse built; officers' residences repaired and renovated.

At Kingston, new boiler-house, electric room, pipe-fitting shop, laundry, bath-house, barber shop, changing room and coal vaults, are under construction. New boilers installed; new intake pipe laid, and a splendid new smokestack, 126 feet high, with 17 feet foundation, erected.

At St. Vincent de Paul, construction work on new 208 standard cell wing prosecuted; remodelling of north wing; erection of officers' club house; erection of stone building for waterworks plant.

Installation of filtration and chlorinization plant, with a capacity of 900,000 gallons daily; erection of new storehouse and gateway begun, 145 by 33 feet; excavation for new south wing started.

New segregation cells built; a new canning industry installed, and a smoke-house, for curing of meats, constructed.

At Dorchester work on the new hospital and school-room, and new south wing, has been carried on throughout the year; rebuilding officers' houses damaged by fire; fencing the prison property generally, together with a large amount of rebuilding and repair work has been done.

For many years an old frame building, once used as a laundry, has been occupied as a hospital, and while all that could be done to make it clean, comfortable and sanitary was done, it remained an eyesore in the institution. The beautiful new hospital now being erected is 94 feet by 62 feet, three stories high, and contains all the latest improvements, both as to construction and equipment. It will contain thirty-two large hospital wards, two sunrooms, waiting room, surgery, dispensary, surgeon's office, X-ray room, operating room, two infectious disease wards, dental surgery, tub and shower baths, and has wide, well lighted corridors.

Farming operations have been carried on at all the institutions, and a very considerable number of inmates are employed at this work. Up-to-date farming methods are taught.

The discipline at most of the institutions has been visibly improved. The advanced humane and individual treatment, better food, schools, up-to-date libraries, etc., are largely responsible for this.

There has been a very marked falling off in the number of " offence reports " recorded, and in one penitentiary, where the daily average of inmates confined was 217, there were only 125 offence reports during the entire year.

The revenue for the year amounted to $140,153.32. A large amount of work for other Government departments was done. Such work has been a great boon to the inmates, who, generally speaking, take an active interest in their task when same is of a congenial and useful nature.

Many times the amount of work now done for the Government could safely be undertaken, and if sufficient be given to keep the inmates employed, the penitentiaries may be made self-sustaining, and wages paid to the inmates as well.

The retirement, through serious illness, of Mr. John McLeod, deputy warden of Manitoba penitentiary, is regretted. Mr. McLeod had a long and honourable record, having served in Dorchester, Saskatchewan, Alberta, and Manitoba penitentiaries, for twenty-five years. His position was filled by the promotion of Mr. W. C. Abbott, chief keeper, who had an excellent record on the Manitoba staff for twenty years.

The position of chief keeper, vacated by Mr. Abbott, was filled by the promotion of Mr. T. Clayton, night warden of Kingston Penitentiary, who has had ten years' penitentiary experience on the staffs of the Saskatchewan, Alberta and Kingston institutions.

The work of inspection and audit has been very efficiently done by Messrs. G. V. Smith and H. C. Fatt, who have worked very diligently and faithfully during the year. Improvement in the accounting of the institutions is marked.

A personal study of the inmates now being received at the penitentiaries reveals the fact that the great majority of them have a most exaggerated idea of what they are pleased to term their " rights," and have little or no conception of their responsibilities as a citizen. Most of them have had one or more previous convictions in jails, reformatories, prison farms, etc. One inmate now confined in a penitentiary has had seventy previous convictions, another fifty-three, while inmates with twenty such convictions are not uncommon.

The following is a record, furnished by the Warden of Kingston, of the inmates received at that institution during 1922, who had previously served terms in Ontario institutions:—

Guelph Reformatory	49
Burwash Industrial Farm	45
Mimico Clay Plant	10
St. John's Industrial School	7
Victoria Industrial School	15
Central Prison	15
Jails	70
Total	211

Of the above, twenty-two were sentenced to two years each for having escaped from the institution in which they had been incarcerated. During the five years ended December 31, 1922, only twenty inmates, who had at any time previously served in a Canadian penitentiary, were received at Kingston.

Religious missions have been held at all of the penitentiaries during the year. The benefit of these missions is felt within the institution to a very marked degree. For four years, they have been an unqualified success. The report of the Reverend Canon Fitzgerald, who assisted in holding the mission in the Protestant Church at Kingston penitentiary, and that of Reverend Father Bourbonnier, who assisted Reverend Father Brodeur, Roman Catholic Chaplain at Saskatchewan, with the mission, are herewith presented:—

To J. C. PONSFORD, Esq.,
Warden, Kingston Penitentiary.

May 26, 1923.

DEAR SIR,—As the missioner to the Protestant inmates of your institution in the special mission held from May 13 to 20, inclusive, I have pleasure in writing to you concerning it.

First of all, permit me to thank you, your deputy warden, and other officers, for the facilities afforded for making the mission possible, and for the splendid way you had arranged everything from your end, to make our mission a power and a success. Next let me say what pleasure it was to co-operate with your excellent chaplain, the Venerable Archdeacon Dobbs, who is truly an earnest and conscientious man. The management of your mighty institution impressed me very much. Instead of feeling that I was preaching in a penitentiary, as we from the outside interpret that name, I had more a feeling of addressing a great body of men, in a well-managed, great, industrial institution.

The devotional part of the services was conducted by your chaplain with impressive dignity. The choir was excellent. Not only was the singing hearty, but it was intensely intelligent and inspiring, and the music was well rendered. When one bears in mind that a missioner was addressing, twice a day, such a large congregation, composed of all kinds of men, and then recalls the attention, indeed, the keen interest with which they were good enough to listen, one cannot but be deeply impressed by your institution and its humane discipline, as well as with the greatness of the opportunity afforded a missioner to deliver God's message with all the power God has given. I think, sir, I do not err when I say that it was a distinct help in the mission not to have a variety of preachers nor any attempt at sensation, but a dignified attempt begotten of prayer and careful study to have helpful, spiritual services,

and to deliver as one's very best each sermon as one in a series of reasoned appeals, the result of study, care and prayer to reach the thinker, arouse the careless, help the struggler, guide the needy one, and convert, by the help of God's Holy Spirit, him who would be converted. All this your missioner did with all his mind, heart and soul, and strength. The results are with Him, who makes no mistakes.

I, indeed, sir, was much encouraged. For instance, over 300 met your chaplain on the final day but one as a result of his invitation to meet all who would, by God's help, in the future, live a better and cleaner life, and pray more; in other words, those who were impressed and "took a stand," and the number at Holy Communion on May 20 was splendid. The address presented to me by the choir, in the name of the congregation, was touching and splendidly worded, and it is now framed and hanging up as one of my most treasured gifts. The interviews I had with individuals were most encouraging, and I am full of faith for far-reaching, good results.

I thank you and your staff, sir, for your kind arrangements, and for the great courtesy extended to me by all concerned. I pray God to bless your excellent Superintendent of Penitentiaries, who, I know, is heart and soul for all such good work and who is a born leader of men. God bless you also and your great work, and grant that my efforts in His name as your missioner to the Protestant inmates may be of permanent value to all concerned, and to the welfare generally of your wonderful and wonderfully managed institution.

Yours very truly,

(Signed) WM. FRED'K. FITZGERALD,
Rector of St. Paul's, Kingston.

PRINCE ALBERT, SASK., May 9, 1923.

The Warden,
Penitentiary,
Prince Albert, Sask.

ESTEEMED SIR:—It offered me great pleasure in accepting the kind invitation of your devout chaplain, the Reverend Father Brodeur, to preach the mission for the Catholics of the penitentiary of Prince Albert, the 22nd to 29th of April last.

I wish to thank you very heartily for the courteous and amiable manner in which you received me, and the care you have taken to give these unfortunate men the advantage of following the exercise of the mission.

I also wish to express my gratitude to the other officers and guards for the discreet zeal which they displayed on this occasion.

Let me congratulate you on the good treatment given the inmates. I admired the splendid order and discipline of the penitentiary, also, the cleanliness of the building. In the beautiful and large chapel, which we had the honour of inaugurating, thanks to your kindness, one hundred and twenty (120) men (among whom were twenty (20) Greek Orthodox) had the privilege of listening to the word of God. Seventy (70) of this number went to confession and received Holy Communion, the last day of the retreat. I was greatly edified by their piety and good will. With the grace of God, I feel that the mission did a great deal of good, apart from the advantage the result of the retreat may have on their conduct in the penitentiary and on their future life.

May our dear Lord recompense you for the interest you took on this happy circumstance.

With kindest wishes for your success and happiness.

(Signed) B. BOURBONNIER.

The carefully selected, properly qualified, school teachers and librarians, who, three years ago, were appointed to all the penitentiaries, have proven of great assistance, and their work of much benefit. The institutions are also indebted to the various provincial education departments for assistance, freely and gratuitously given. Many inmates are very illiterate when received. Few leave the institution without a fair knowledge of the essentials, by way of an education. The Warden of St. Vincent de Paul penitentiary reports that, in one year, the illiterates in that institution were reduced from 106 to 37, or from 18·6 to 8·02 per cent.

The Library Board at each institution consists of the warden, two chaplains, school teacher and librarian. They have, by strict attention to this important branch, been able to purge the same of the trashy literature with which they were stocked, and there have been provided instead, many hundreds of really good, wholesome, clean books, many of them educational.

The monthly report of the school teacher and librarian at Kingston for the month of January, 1923, follows:—

Number receiving individual instruction in French, Spanish, and shorthand (correspondence)	202
Requests for higher education during the month	7
Accountancy	10
Book-keeping (correspondence)	20
Business letter writing	30
French (correspondence, occasionally oral)	26
Spanish (correspondence, occasionally oral)	18
Shorthand (Gregg and Pitman's methods, orally and by correspondence)	16
Officers	9
Females, receiving instruction in female department	16
Other inmates who receive instruction from school teacher occasionally in elementary subjects, but who prefer to study in cell	250
Debating class	54

The debating class has settled down to business. Three debates have been held so far, reports of which will be submitted on completion of transcription.

The total number of inmates more or less in receipt of educational facilities in this institution at this date is six hundred, a number of whom are members of more than one class, and thus the grand total of all students in all classes is 812.

During the month, 11,652 library books and magazines were in circulation. The keenest interest is maintained by those reading the best authors.

Schools of correspondence are carried on at the institutions. The examination papers are set and distributed to the more advanced pupils, who work at same during the evenings. A great good is accomplished in this way. A very considerable falling off in "offence reports" has resulted since the introduction of the correspondence schools.

Fireproof moving-picture machines are now installed in the penitentiaries, and very excellent films are shown repeatedly. These concerts are greatly enjoyed by the inmates. They also are a proven aid to discipline. In a western penitentiary there is an inmate serving a life sentence who, since his incarceration, was never known to smile. The warden, chaplain, and other officers had tried to influence him in many ways, but all to no effect. He cursed everybody —refused to write to, or read the appealing and loving letters from, his wife and children; in fact, he was about given up as a confirmed grouch and irredeemably bad case, when the warden was fortunate in securing, along with some educational films, one of lighter vein, which, while clean, was laughter provoking. During the exhibiting of this film, this inmate was seen by the warden to sit up and appear most interested, then to smile, and finally to joint his comrades in a hearty laugh. The warden was struck to see this, and shortly before "lights out" that night, visited the prison, going directly to the cell of this man. He found him pacing up and down, and when he saw the warden, with tears and sobs asked him to forgive him for all the bad things of which he had been guilty, asked for paper to write to his faithful wife and children, and from that day on he has been a model inmate, attends Bible class regularly, looks anxiously for the letters from his faithful and loving ones at home, writes to them letters full of regret for his past neglect, and now smiles as others do throughout each day. The exhibition of this laughter-provoking film assisted materially the discipline in that penitentiary.

Most of those educated in the treatment of the criminal agree that strict discipline is essential in a properly conducted institution, but all disciplinary efforts are wasted unless tempered with loving and merciful treatment. I have looked in vain for one example of true conversion to virtue through punishment.

The classification and segregation of inmates in Canadian penitentiaries are essential. For almost thirty years the officers of the penitentiaries have pleaded that accommodation to successfully classify and segregate the inmates be pro-

vided. They easily led the rest of the world in this important and essential matter, but all their endeavours have come to naught, all the reports and memoranda written on the subject, year after year, have gone unheeded, at least, in so far as results are concerned.

The greatest asset any country can possess is God-loving, law-abiding, healthy manhood, yet it would appear as though greater care has, in the past, been bestowed upon producing pure-bred live stock than in saving the many hundreds of the young men of the country, committed to one or other of the penal institutions. Classification and segregation within the penitentiaries are as essential as are infectious disease wards to hospitals.

Young first offenders should never be housed in one and the same institution as recidivists and hardened criminals. There should be an abundance of work provided by the Government for the inmates of the penitentiaries, sufficient to keep all inmates employed. If the proper class of work be furnished and a fair price paid for same, the institutions may be made self-sustaining, wages paid to the inmates, and the country relieved of the burden of taxation for their support.

Inmates must work if any progress is to be made toward making them better citizens. It is needless to attempt to reform them if they be kept in idleness or made break stone.

There is no valid reason why good citizens, who obey the law, should be taxed to support lawbreakers in a penitentiary who can and should be made support themselves and their dependents.

An estimate of the cost of crime to the United States has been worked out by the Institute of Economics at Washington. The bill is very high. Last year it reached five billion dollars. It is calculated that the cost per capita amounts to $30 for every man, woman and child in the United States. Why not give the inmates of Canadian penitentiaries a chance to pay their own bills? It may easily be done.

The health of the inmates has been visibly improved. Every attention is now given them. Improved hospitals and facilities, dental clinics, X-ray examinations, operations, blood tests, etc., have all combined to improve the general health of the inmates, 82 per cent of whom leave the institution weighing more than when they entered.

Experiments with "Intelligence" or "Mental" tests have been held at some of the institutions. After a study of these tests, it would appear that a more appropriate name for them would be "Alertness of brain tests," as they seem to reveal activity or promptness of thinking rather than profoundness of thought. Such tests may prove interesting to students of psychology, but as tests of "mental capacity," it would appear they are not very reliable.

It is very important to be able to form a rational opinion on the physical and mental makeup of an inmate, but the study of one confined in prison has mainly to be based on what can be learned of them while incarcerated, where they are under restraint, and by no means their natural selves. It is most important that a very careful study be made of each inmate on arrival, in order that he may be placed to the best advantage within the institution. They are not equally endowed; some have great physical strength, while a few have very wonderful intellectual gifts. Most of them may be made useful if properly placed. Should they be placed in positions for which they are unsuited, and in which their faculties are not allowed free play, they usually prove to be a nuisance, but very often, when placed at different employment, they do well. Nothing much may be taken out of a man but what is in him. In many cases, we learn there is a great deal in him if we can but succeed in bringing it out.

Efforts to combat venereal diseases are continually being increased. At several of the institutions, everything necessary is now being done; blood tests for syphilis and smears for gonorrhœa are taken, and in all cases, where necessary, treatment is given.

It would be desirable to refuse parole to any inmate until cured, and in case a cure had not been effected prior to the expiration of sentence, the diseased inmate should be turned over to the general or other hospital in the municipality to which he belongs, and there detained until cured. All that can be done by way of segregation of clothing, dishes, bedding, towels, drinking cups, etc., is now done, and all material sent to the laundry is specially marked, soaked in a creoline bath and washed separately.

Drug addicts are increasing very rapidly in the penitentiaries. In one institution almost one-third of those received during the year were slaves to narcotics of one kind or another. Such inmates are a menace to the peace and discipline of an institution. There is no depth to which a confirmed addict will not descend in order to obtain a supply of the drug. Traffickers in "dope" on the outside make easy money, and spend it lavishly, in attempts to keep their friends in prison supplied. It is very difficult to wean an addict from the habit when once formed. They become unreliable, untrustworthy, and often thoroughly depraved. Extraordinary measures should be adopted to stamp out this rapidly increasing menace. Reports at hand show there to be 125 inmates in the penitentiaries who are recognized " drug addicts."

Parole boards, to control the paroling of penitentiary inmates, as recommended in previous reports, should be established. No one other than the trial judges and those who came into active contact with the inmates, and who, by their association with them and study of them, are qualified to intelligently express an opinion regarding them, should have authority to recommend parole. It would materially assist discipline in the institutions to have inmates realize that the best argument they could have, and one that was absolutely essential to secure for them parole, was a record for good conduct and industry within the institution.

Many of the men coming into the penitentiaries confess that their downfall resulted through their love for the " Jazz " life, craving for money to enable them to keep pace with " the gang," working too few and loafing too many hours, and the lack of proper home influence. Little attention is paid to these boys and girls going wrong until they have committed crimes, and are arrested. Then kind treatment and sympathy are showered upon them; in many cases, such treatment and sympathy would have saved them had they been offered sooner.

We find some of these more susceptible to evil influences than are others, but there is not any definite type to whom this would apply. I have read many books on the criminal, and have searched carefully and diligently for the types we read of, but so far have not discovered any. I have found only men and women, and have learned that they may only be known by obtaining their confidences and studying them as human beings should be studied.

Recommendations

The following recommendations are submitted; many of them were made in previous reports:—

(1) Classification of inmates by institutions.

(2) Segregation of habitual criminals.

(3) Opening of mental disease hospitals for treatment of feeble-minded and insane inmates. There should be a proper mental disease hospital provided as soon as possible.

(4) Training of officers before being permitted to take charge of inmates.

(5) Empowering those in charge of penitentiary administration with authority to administer and discipline same.

(6) An annual Penitentiary Congress of Canadian Penitentiary officers should be held.

(7) More Government work for inmates should be provided.

(8) Payment of wages to the well-behaved inmates for work well done.

(9) Appointment of parole officer in each penitentiary area.

(10) Securing by area parole officer of employment for inmates on discharge.

(11) Creation at each institution of a parole board, consisting of the warden, deputy warden, surgeon, chaplains, schoolmaster and area parole officer.

Respectfully submitted,

W. S. HUGHES,
Superintendent.

APPENDIX A—DOMINION PAROLE OFFICER'S REPORT

R. R. Creighton, Dominion Parole Officer, reports:—

As will be seen from the tabulated statement herewith submitted, the parole system continues to function in a satisfactory manner and the fact that so large a percentage of those to whom paroles have been granted comply with the conditions imposed is encouraging.

The statement is as follows:—

TABULATED STATEMENT FOR YEAR ENDED MARCH 31, 1923

Prisoners released on parole		Revocations per cent	Forfeitures per cent	Total loss per cent
Dorchester	175	3 or 1·71	6 or 3·43	9 or 5·14
St. Vincent de Paul	139	5 or 3·60	9 or 6·47	14 or 10·07
Kingston	191	6 or 3·14	8 or 4·18	14 or 7·32
Manitoba	40	1 or 2·50	3 or 7·50	4 or 10·00
Saskatchewan	41	2 or 4·88	1 or 2·43	3 or 7·31
British Columbia	47	1 or 2·12	1 or 2·12	2 or 4·25
Total, penitentiaries	633	18 or 2·8	28 or 4·42	46 or 7·26
Gaols, reformatories, industrial farms, etc.	720	8 or 1·11	18 or 2·50	26 or 3·61
Grand total	1,353	26 or 1·9	46 or 3·39	72 or 5·31

The number of inmates released on parole during the year from the various penal institutions throughout the country was 1,353, being 450 in excess of the preceding twelve months; the number liberated from the various penitentiaries being 228 greater and from reformatories, gaols and industrial farms 222. The number of paroles revoked and forfeited was 72, or 5.31 per cent of those granted.

The responsibility of receiving reports from persons on parole is vested in the Royal Canadian Mounted Police and the following table as prepared by them shows the movement from 1899 to March 31, 1923:

Released on parole from penitentiaries	7,313	
Released on parole from gaols and reformatories	8,461	
		15,774
Licenses revoked	537	
Licenses forfeited	370	
Sentences completed on parole	13,973	
Sentences not yet completed	894	
		15,774

A reference to the above table shows that exclusive of those still reporting 13,973 individuals have completed their sentences on parole and the forfeitures and revocations number 907, or 5.7 per cent of the total number released.

During the year 650 cases were reported on by this office. This entailed much and varied correspondence in securing information regarding antecedents and general character of the applicants prior to incarceration and in the securing of employment on release. In almost every case the necessary work was provided and in this connection I desire to express my sincere thanks to the officers of the Salvation Army for their willing and valuable co-operation. They always cheerfully extend a helping hand and we never appeal to them in vain.

Although it does not properly come within the scope of this report, it may not be amiss to state that during the spring and summer months just passed I have visited the six penitentiaries where as many of the inmates who expressed a desire to see me had the opportunity of doing so and notes were kept of any points they wished to emphasize bearing on their cases and the reasons why they thought executive clemency should be extended to them. The interviews numbered about 1,060 out of a total prison population of 2,486.

The results in this connection amply repay the work and patience it involves. Although the time devoted to each individual is of necessity too short to allow of a thorough study of the case one is able to form some estimate of the character of the man which is of value when his case is under consideration by the Remission Branch. In addition it is a satisfaction to the inmate to know that he has had the opportunity of expressing his views to an official of the department who is there specially for that purpose. It tends to make him more contented and in this way aids the discipline, particularly when, as is invariably the case, it is impressed upon him that his good conduct in the institution is one of the most important factors in his favour when his application for clemency is under consideration.

APPENDIX B—WARDENS' REPORTS

KINGSTON

J. C. Ponsford, Warden, reports:

The inmate population of this institution has decreased 126 during the year.

	Male	Female	Total
Remaining at midnight, March 31, 1922	831	24	855
Remaining at midnight, March 31, 1923	703	26	729

The male population decreased 128, and the female increased by two. The number of inmates received during the year was:

Males, 285; females, 13; total, 298.

The discharges during the year were as follows:

	Males	Females	Total
Expiration of sentence	109	.....	109
Pardon	3	.....	3
Parole	184	8	192
Deportation	32	3	35
Deaths	3	.....	3
Returned to provincial authorities	3	.....	3
By order of court	1	.....	1
Transfer to other penitentiaries	77	.....	77
Suicide	1	.....	1
	413	11	424
Inmates received during year			298
Net decrease			126

On August 5, 1922, 76 inmates were transferred to Saskatchewan penitentiary, but while en route, one prisoner got away, and after being apprehended in Montreal he was returned to this institution, where he is now completing his sentence.

There are at the present time, 14 inmates confined in the different asylums of the province, 11 of whom are serving a life sentence.

Of the 729 inmates incarcerated, 591 are under 40 years of age.

The sanitary condition of the institution and the general health of the prisoners has been exceptionally good. The danger from water contamination has now been entirely eliminated by the installation of a chlorinating plant, and no cases of fever have been reported.

The hospital has been made very modern, through the addition of surgical and other equipment, so that all operations of any nature whatever can now be handled here.

I regret to have to report the death of four inmates during the year as follows:

Inmates H-612, P. Kearney and H-863, J. Hitt, died from the effects of wood alcohol poisoning from shellac which they drank and proved fatal on June 17, 1922.

Inmate A. Ruffini, F-989, committed suicide by throwing himself from the top range of gallery in main dome on September 21, 1922.

Inmate H-984, A. Oleynick, was found dead in bed on the morning of January 27, 1923. Report of autopsy showed cause of death as "Syphilitic aortitis."

Inquests were held in each of the above cases, and no blame was attached to the institution or officers in any way.

As might be expected, there were a number of minor accidents, which were promptly attended to by the hospital staff.

Weekly clinics have been held by Professors Austin and Connell during the winter months, when consultations were held on both medical and surgical cases among the inmates. These were of great value to the institution.

Excellent progress in the building line has been made. The stone work of the new power house and extension of the laundry was carried up from the first window-sills, and the roof put on before cold weather set in. During the winter, the boilers were bricked in, and the walls strapped and lathed, and partly plastered. The intake pipe was also put in from the lake.

The smokestack has been finished and we now have a stack 126 feet high, reinforced, built above a heavy stone foundation 17 feet deep, finished with lightning arresters and iron ladder outside on top. This stack was built in six weeks, which in my opinion is record time, and reflects great credit on the instructors and workmen.

The roof has been put on the coal vault, being a surface of 54 feet by 150 feet, and is made of reinforced concrete with the necessary openings and hatch covers.

The female prison was painted and decorated throughout and is now in an excellent condition.

The inside storm sashes were made and put on all windows of the north wing.

A new galvanized iron roof has been put on the prison of isolation to replace the one torn off by the hurricane some months ago.

The new concrete galleries in the main dome have been all finished. The walls have been all freshly plastered; stairs and railings have been put up and painted.

A new cornice has been put on all around the warden's residence. The exterior has been painted and conservatories repaired where necessary. A new roof should be put on as soon as it is possible to spare the workmen for this purpose.

The deputy warden's residence has been put in excellent shape. The exterior has been painted and necessary repairs made to the verandah and roof.

The blacksmith shop has been very busy during the year making cell barriers and beds, also locking apparatus for the different penitentiaries, together with all iron work for this institution.

A trench was excavated from Union street to the prison yard, and about 1,800 feet split tile put in to carry the cable for hydro power, which has been installed during the year.

Preparations are being made for the building of a new dock on the south front of the institution. Excavation has been done to the water level.

The library has been enlarged and now gives plenty of room in that department .

The other shops, viz., printing, broommaking, tin and paint and carpenter, have been busily engaged throughout the year.

The mail bag department has produced a revenue of $25,222.42 in connection with work done for the Post Office Department, $1,564.80 on work done for other Government departments, and $140.36 through the medium of custom work for the penitentiary staff. I am indeed pleased that we are steadily branching out and obtaining work from the various Government departments for this shop, and every effort is being made to meet all requirements.

The tailor shop was continuously employed throughout the year and shows a net profit on custom work of $1,148.01. Work has been done for the County Gaol, Department of Indian Affairs, Department of Soldiers' Civil Re-estab-

lishment, Royal Canadian Mounted Police, and Interior Department, as well as other penitentiaries. This shop also takes care of staff uniforms, as well as inmates' clothing.

The shoe shop shows a revenue of $10,986.32. In addition to making all shoes for the staff, work was done for the Department of Indian Affairs, Canadian National Parks, Department of Soldiers' Civil Re-establishment, and Royal Canadian Mounted Police. In order to assist the Rotary Club, which launched a shoe and stocking campaign last winter, the shoe shop put into good condition 380 pairs shoes, which had been donated by the citizens of Kingston for that purpose. All inmates' boots and slippers were made in this shop.

The laundry and change room were very busy places taking care of the inmates' clothing and washing.

The steward's department has been very satisfactory, supplying a change of menu daily. All food has been wholesome and well cooked.

The engineer's department has just completed a very busy year. The heating system in the shoe shop has been remodelled. The female prison sanitary conditions have been very much improved by removing the old flush-box toilets and installing new toilets with flushometers attached.

A steam radiator was installed in the assistant matrons' quarters.

Two new toilets with flushometers were installed in the pipe shop.

Changes have been made in the steam lines, by which the return steam from the cooking kettles goes back to the boilers, instead of to the sewage system as formerly.

Electric hot-water heaters were installed in the warden's and deputy warden's residences.

New closets were installed in the carpenter shop and old laundry, replacing the old ones.

The piggery has been improved by the building being wired and lighted by electricity.

The farm instructor's residence was wired throughout.

Hydro-electric was installed in this institution during the past year, and it is estimated that there will be considerable saving in our fuel account as a consequence. Considerable of the old wire in the ducts, which had become very dangerous, was replaced with new, which makes it much safer for officers and inmates working there.

Fourteen new motors have been installed in the different shops.

New ten-inch intake pipe has been laid from the dock to new boiler-house, three feet under water level.

The farm has shown very good results, as there is $2,180.62 profit on this department. Several of the old horses have been replaced with young ones. Produce, as follows, was supplied to the different departments: Steward, $6,465.42; stables, $1,818.33; piggery, $683.58; and customers, $1,646.46.

Considerable road work was done on the penitentiary reserve, as well as on the main thoroughfares which are maintained by this institution.

The school and library department is continuing to show far-reaching results through its activities. This is quite evident by the fact that inmates are continually asking for reading matter of an elevating nature. Volumes such as the Book of Knowledge and others of a like calibre are constantly in demand.

Practically every inmate of the institution, who wishes to take up some line of study, is permitted to do so. Special attention is given to illiterates, and the balance of the inmates are divided into classes, according to their ability. It is expected that there will be a large number trying the entrance and matriculation examinations. As an example of how some inmates are progressing, one young man, who a year ago could neither read nor write, is now one of the brightest candidates for the entrance examination.

A debating class has been formed and has been the means of developing the characters of some of the inmates in a very surprising manner.

The work of the chaplains has been whole-hearted and unsparing. When one considers that almost every nationality is represented here, and that these are divided into two congregations, it is quite obvious that the reverend gentlemen have their hands full in attempting to minister to their spiritual welfare.

The usual Christmas festivities were not forgotten, and a special menu of good things was arranged for that day. Two concerts of Kingston talent were given during the holidays and were thoroughly enjoyed by the inmates.

The social side of the inmates' life has been greatly benefited by the purchase of a moving picture machine. There is also under way the formation of an orchestra, and the present intention is to hold monthly entertainments of pictures and music.

In conclusion, I desire to submit the following recommendation which I trust may appeal to you as reasonable and necessary:—

I wish to repeat the recommendation that I made in my annual report for the year 1921, to wit: "That a new penitentiary be built for the reasons as stated in the report referred to above."

This penitentiary has been situated in its present position for about ninety years, during which time a city of some 23,000 population has grown up very close to the reserve, and the locality immediately adjoining has become quite thickly populated; therefore, in case of an escape, innocent persons might be killed or wounded by officers in the discharge of their duty, in an endeavour to prevent such escape.

The whole community appears to be affected by what might be termed "Penitentiary Insanity," as every little incident that takes place in or about the institution is made much of by the local press, and sent out broadcast by Associated Press despatch, thereby keeping crime and criminals constantly before the public, which is not conducive to the best results.

The meeting of all wardens at Ottawa in the early part of March, where they were given an opportunity to meet the minister and superintendent, and all of the headquarters' staff, was of great value and beneficial to all concerned, as many suggestions were put forward for the betterment of the service, as regards amendments to the Penitentiary Act, and the regulations. Such a meeting as this should be made an annual affair, and each year held at the town or city in which one of the penitentiaries is situated. By so doing, each of the wardens would be able to personally observe how the others were conducting their institutions.

I would recommend that we again revert to the standard of 5′ 9″ as being the minimum height of disciplinary officers, as the great majority of men offering their services at the present time barely come up to our present maximum height of 5′ 8″, and in appearance, their physique is not of a commanding nature, as it is a well known fact that an inmate would hesitate to attack an officer whose physical appearance would indicate that he was quite prepared to take care of himself.

I would recommend that the Penitentiary Act be so changed as to give the executive head of the institution the right of personal search of any officer on the staff for heroin, cocaine, or any other contraband that he might be suspected of trafficking in, otherwise it is very difficult to detect an officer who may be trafficking in drugs, letters, or other articles.

Herewith I send you necessary statements for publication of report.

I wish to express my gratitude to the superintendent and inspectors for their assistance and courtesies during the year. The same was unstinted and cheerfully given.

I also take this opportunity of expressing my thanks to the loyal officers on my staff, who have been invaluable to me during the year.

ST. VINCENT DE PAUL

R. de la Bruère Girouard, Warden, reports:

I have the honour to submit my annual report in connection with the administration of St. Vincent de Paul penitentiary for the fiscal year ended March 31, 1923, with attached:—

1. Statistical Report.
2. Surgeon's Report.
3. Chief Industrial Officer's Report.
4. Farmer's Report.
5. Librarian and School Teacher's Report.

On March 31, 1923, the population of the penitentiary was 625 inmates, showing a decrease for the same date in the previous year of 62. By a strange coincidence it will be noticed that the daily average population during this fiscal year has increased exactly the same amount, that is, 62, the population averaging 666 being the highest in the history of this institution.

There were nine deaths in the penitentiary and two inmates died in the Provincial Hospitals for the Insane.

One inmate escaped during the year, on August 8, but was recaptured on the 17th of that month.

Through checking up the citizenship some twenty inmates who had been in the institution for some time were found to be deportable subjects and were deported accordingly.

Compared with the seven inmates who were declared insane in the previous fiscal year, the surgeon only had one to report for the present year.

It is a pleasure to note that the per capita cost of hospital treatment was reduced from $2.25 to $1.27 and the general health of the institution has improved considerably.

One hundred and thirty-eight paroles were issued this year of which only one inmate has been recommitted.

In connection with our large construction programme and industries it also gives me much pleasure to submit the results, which are as follows:—

Work on the new wing was carried on and eighty-five per cent finished.

Two thousand five hundred lineal feet of hand drilling for sanitary and locking apparatus, and part of locking system installed and all furniture for cells made.

Solid walls of the north and east wings were penetrated, concrete girders built, steel barriers made and installed across the aisles. The roof was 75 per cent galvanized. Walls were washed with alum, general painting done and over 40 per cent of the cells were completed.

North Wing.—Alterations were made to the above and the floor at second cell range broken through and new gallery floors built, thus making this wing a four-tier wing to conform with the new wing, doing away with punishment cells on first storey.

Club House.—The club house was finished and opened for use.

A stone building 36 feet by 29 feet by 18 feet was finished and two large Roberts' filters, having a capacity of 900,000 gallons for twenty-four hours, were installed and tested by the end of the year, this to furnish filtered water.

Excavation for the extension of both sides of the prison main gate was commenced so as to enlarge the storekeeper's store space. The new additions will total 112 feet long by 33 feet wide and 41 feet high, making a finished building of 145 feet by 33 feet. The progress of this building was excellent and

at the end of the year only ten weeks' masonry remained to be done. A large amount of waste space of the gateway was utilized.

Tramway.—The tramway was extended from outside the main gate through same and into the prison enclosure thus doing away with the old transfer system by derrick and horse which had existed up to this change. The horses freed from this work have been mostly absorbed by the farm and on other construction work. The tramway track between the Canadian Pacific Railway level crossing and the main gate was raised to a regular gradient, the highest filling being 6 feet, besides conforming the roadway to the track and macadamizing same.

South Wing.—A 90-foot extension to the south wing was excavated in solid rock.

Crusher Plant.—A crusher plant, 16-inch by 20-inch, electrically operated, with rotary screen and hoppers, was installed and 3,082 tons of stone crushed in five months' operation.

The summer piggery, with permanent concrete floor and troughs, 12 feet wide by 244 feet long, with superstructure providing for 200 fully grown pigs was erected. I may add that by enclosing same this was used throughout the winter.

New Isolated Cells.—Eighteen new isolation cells were constructed.

Cannery.—A new industry in the shape of a cannery was started in July, 1922. Besides gaining considerable experience at a low cost we managed to can enough farm produce to provide the institution with vegetables throughout the winter, thus avoiding their purchase.

A smoke-house was built for curing ham and bacon.

The kitchen was entirely renovated and painted.

Galvanized connecting hoods and electrical exhaust fans were installed, thus completely drying the atmosphere.

The officers' mess and kitchen were renovated and glass overhead cleaned.

A large new refrigerator was built for the steward's department and the butcher shop.

The roof of the east wing, hospital, new northeast wing and part of keepers' hall and administration building were painted.

The blacksmith and machine shop have been brought up to a high standard. It is now a thoroughly up-to-date shop and we are to-day practically in a position to do all our own machine work.

The bindery has been greatly improved and is now handling some high class work.

The carpenter shop has been particularly busy in handling general custom work and fulfilling orders for the Department of the Interior and other penitentiaries.

Two hundred and thirty thousand two hundred F.B.M. of lumber was used in furniture and building, and seven cords of hickory in making axe handles and pack saddles.

Sixty inmates are employed in the mason's department. This department is up against difficult propositions continually, in joining new work to old buildings, which naturally slows down the rate of progress, especially in view of the poor condition of the old work demolished. No report can properly cover the numerous small jobs during the past year.

Seven thousand eight hundred and thirty-nine bags of cement, an equivalent of 15,000 cubic yards of concrete was used by this department.

The quarry gang removed 11,090 lineal feet of rough stone during the year, working about 60 per cent of the time, the balance being spent in unloading coal and other materials, and shovelling snow during the winter.

The shoe shop handled in making and repairing 6,042 pairs of boots and shoes, and in custom and other work 1,586 articles, including pack saddles, rifle buckets and axe scabbards.

The stonecutters have done excellent work, cutting during the year 10,725 lineal feet of stone.

The tailor shop handled 7,893 articles for the institution and 1,125 articles for custom work.

The tinsmith shop, though employing only ten men made a splendid showing in handling 5,899 articles for institutional work, and 1,086 articles for custom work.

My thanks and appreciation for good work, ably done, are due to the chief industrial officer and his staff.

In connection with the farmer's report, I regret to state that owing to the fall ploughing having been left over by the present incumbent's predecessor, seeding was retarded and combined with adverse local climatic conditions, the crop was not up to expectations, this coming at a time when a fairly heavy outlay had been made on the farm to purchase implements, etc., to replace those worn out and dilapidated, was very inopportune. However, good work was done in fertilization, which was much needed, owing to the fact that our farm has probably been worked for a matter of 200 years, being in the oldest settled portion of this province, and was naturally well worked out.

I am glad though, while on this subject, to report that another branch of the farm has succeeded beyond expectations. I allude to the piggery, which has shown wonderful results.

Six hundred and seven young pigs were farrowed during the year from 48 brood sows. The farmer was most fortunate, having had very little sickness, and I may say, without fear of contradiction, that this institution can boast of the finest herd of pure-bred Yorkshire and Berkshire swine in the province of Quebec, if not in the whole Dominion.

The comments of the representatives of the Department of Agriculture, both federal and provincial, have been most gratifying in this regard.

The area cultivated on the farm was 180 acres. Hay land was 140 acres. Value of products, $13,968.90. Value of stock on hand, $30,070.14.

The profit on the farm during the fiscal year amounted to $8,274.84, which in spite of the poor crop is a very creditable showing.

At an exhibition of stock held at Dorchester in June, a Yorkshire boar which had been bred in this institution was exhibited, and upon examination by the judge, Mr. King, of the Dominion Department of Agriculture, he stated that it was the best in the Maritime Provinces.

School Teacher and Librarian.—The results in the school have been more than encouraging. At the date of admission during this fiscal year, 106 inmates were illiterate. On March 31 this number had been reduced to 37.

The class attendance during the year was 6,087 French, 4,200 English, 441 Italian, and the correspondence school showed 855 French and 621 English.

The percentage of illiteracy which on March 31, 1922, was 18.5, was reduced on the corresponding date in 1923 to 8.02.

I do not doubt but that everyone will admit that such a showing is a great credit and more than justified the department's action in developing the educational facilities of this institution.

Considerable literature of an educational and historical nature, etc., has been added to the library.

Engineering Department.—I have to thank the engineer and staff for the very creditable work performed during the year. His programme has been

large and varied but unfortunately is of such a nature as to show very little visible results, except in so far as the construction of the filtration plant, and the sanitary and water connections in the new wing are concerned.

Steward's Department.—I am thoroughly satisfied with the progress made in this department, the food and service being of a high quality.

RECOMMENDATIONS

I again feel it my duty to stress the superintendent's recommendation and that of my own in last year's report to the effect that no time should be lost in the construction of a new institution, to take care of youthful first offenders.

A great many improvements have been made as regards the moral, physical, mental and hygienic uplift of the inmates, and it naturally follows that if the good work is to bear fruit the above recommendations must not be overlooked. No work is worth while doing unless it is worth doing well.

The setting aside of a fund to pay a small sum to the working and deserving inmate would, in my opinion, not only be justified, but would have a wholesome effect on the inmate himself and his dependent family.

In the case of a married man it would in many cases help to keep the fireside going and possibly prevent the ruination of his wife and family through outside influences over which they may have little or no control, succumbed to possibly after many discouraging attempts to make good, the bread winner being absent and the mother and children having been left to shift for themselves. The feelings or the state of mind of an inmate who has paid his debt to society and who on being discharged returns to his home and finds it ruined or in a state of chaos can easily be imagined. Can one reasonably expect that his incentive to become a better citizen would be strengthened?

As to the unmarried inmate the effect of leaving the institution with a small nest-egg to his credit instead of with a paltry $10 or less, as at present, would help to establish him in the trade which he more than likely learned in the institution, thus aiding him to commence anew.

The solution for the foregoing in my opinion is as follows:

Instead of requesting an appropriation to cover such a fund, that work be given by the different Government departments to the penitentiary service, and my experience here has taught me that by so doing it is feasible to defray the whole cost of such outlay and even make a surplus.

I again recommend the amendment of the Criminal Code empowering a judge to give an indeterminate sentence.

I also recommend the establishment of an institution, properly equipped, for the maintenance and care of those inmates who become insane while incarcerated. The present system has no facilities for treating this subject humanely, and a great deal of difficulty is experienced in getting insane asylums to accept criminal patients on transfer from the penitentiaries.

In conclusion the institution's thanks are due to the Prisoners' Welfare Association, La Société Catholique de Protection et de Renseignements, the Salvation Army, the Catholic Social Service Guild, all for help and encouragement extended to discharged inmates; also the Montreal Tramways Band and the above societies for concerts given during the holiday season, at the institution.

I have to thank the members of my staff for their hearty co-operation and loyal support during the past year and to our superintendent, Brigadier General Hughes, D.S.O., the inspectors and headquarter's staff who have made our business and social relations with them a matter of pleasure to all concerned.

SESSIONAL PAPER No. 20

DORCHESTER

Wm. Meighen, Warden, reports:—

I have the honour to submit herewith my annual report for the fiscal year ended March 31, 1923, together with the following reports:—

(1) Statistical report.
(2) Farm report.
(3) Surgeon's report.
(4) Librarian's report.
(5) School Teacher's report.
(6) Matron's report.
(7) R. C. Chaplain's report.
(8) Protestant Chaplain's report.
(9) Chief Trade Instructor's report.

Our population at the closing of the prison March 31, 1923, was 363 inmates, a decrease in one year of 72 inmates. We received 166 inmates during the year, and discharged by parole 175; by expiration of sentence, 49; by pardon, 2; by deportation, 6; by death, 4; by escape, 1; by conviction quashed, 1. I regret exceedingly to state that the inmate who escaped on June 18, 1922, has not yet been recaptured.

I am pleased to say that our farm operations for the year were quite successful in many respects. We had an exceptionally good crop of hay and an excellent crop of roots. We had some difficulty during the harvest season in getting our grain and hay crops harvested in good condition owing to an unusually wet season but on the whole we had very good success. We had better success with small vegetables, such as raddish, lettuce, green onions, tomatoes, etc., than we did the year previous, and I can assure you the inmates enjoy vegetables in season very much indeed. In order to use up the large crop of hay we had, we purchased a number of young cattle, which we fed through the winter. These together with our twenty horses and a number of pure-bred shorthorns, consumed a good portion of our supply. In this connection I might state that it is just about two years since I got permission from you to purchase ten pure-bred shorthorn cows and one shorthorn bull. We have now some thirty pure-breds, and have sold four of our young bulls to agricultural societies in different parts of New Brunswick, three of which were under the age of one year. Our young stock has won several prizes at fairs in this community. We have recently purchased what I believe to be the best bull of its breed in the Maritime Provinces, and I expect, therefore, that our stock will continue to improve in quality. I think we have already proven that it pays to handle well-bred, high class cattle. We have also an excellent stock of Yorkshire hogs, as well as a number of excellent horses. I hope to be granted the privilege this summer of holding a prison fair for the benefit and instruction of the inmates. My idea is to ask a couple of outside experts on stock to come in and judge our stock, the same as is done at the winter fairs at the agricultural colleges. All inmates interested in stock and farming will be given the privilege of judging, and explaining the good and bad points of the various animals. The outside expert then would do the same, and I believe this would encourage the inmates to take a real interest in stock. This affair could be carried on successfully in our stock yard.

Last spring we started to build a new hospital, which was very much needed, just south and adjoining our new south wing. We had hoped on the start to have the roof on before the cold weather set in, but were unsuccessful in carrying the outside walls to the required height, in order to allow the roof to be placed in position. This will be completed as soon as weather permits in the

spring. We believe when this hospital is completed we will have one of the best prison hospitals in America, in which we will have thirty-two large hospital wards; operating room, an X-ray room, a dispensary, doctor's office, waiting room, large sun rooms, infectious disease ward, dental surgery, etc., all of which will be equipped with modern appliances.

Other construction work was of repairs and improvements. We had the misfortune to have a fire in one of our cottages on August 7 last, which practically gutted the interior of same, and did some slight damage to the adjoining cottage, both of which have been repaired and are now again occupied. Several of the other cottages required repairs to the roofs and chimneys, and a number required some repairs to the plaster in different rooms. None of the thirty cottages were built on proper foundations, and as a result, most of them have been sagging in places, which cause breaks in the plaster and much inconvenience to the occupants. These cottages should all be raised, placed farther back from the road and on good solid foundations. They should also be covered with a fireproof shingle of some sort, and plastered or veneered all around, in order to make them more comfortable for the officers and more secure in case of fire. It is surely a miracle that these cottages being so close together, have not been burned down long before this.

We were fortunate last year in securing authority to purchase two properties adjoining our row of cottages and immediately in front of our prison property. This will prove advantageous to us from the point of keeping any undesirables from living too close to the prison enclosure.

The fencing along the main road, in front of the prison property, is now a credit to the institution. This fence, made with turned posts, painted, and strung with woven wire, with ornamental stone posts at all corners and gateways, adds greatly to the appearance of the institution.

I am pleased to say that the discipline of the inmates has, on the whole, been very good, and that most of the officers have been honest and zealous in the discharge of their duties.

The chaplains reports indicate that they are satisfied with the results of their efforts.

The surgeon reports that the general health of the inmates has been good, except for influenza in a mild form. I am sorry to say that we had four deaths during the year; one from pernicious anaemia, one from capillary bronchitis, and two from tuberculosis.

The school teacher I believe is doing splendid work, under unfavourable conditions in so far as room and accomodation are concerned, which trouble will be over in the very near future.

We provided a motion picture entertainment during the Christmas holiday season, similar to the one held during the two previous years, and like the others this one was very much enjoyed by all present.

Our female population has decreased from seven to three during the past year, so that I would advise closing our female ward altogether by transferring the three inmates we have to Kingston penitentiary.

Towards the closing of the fiscal year I was instructed to report at your office in Ottawa, for the purpose of attending a conference of the various penitentiary wardens and officials, in order to assist in revising rules and regulations; to talk over matters generally relating to the welfare of the various institutions, and the promotion of constructive ideas for the general good of the service, and I feel positive much good will result to the service from the conference held, and I believe a conference should be held annually in the future.

I fully expect to make better progress in all branches of the work in connection with this institution this year than any year in its history, and am confident I will have your support in all my efforts.

I wish to thank you very sincerely, the inspectors and the structural engineers, for the support you have given me, and for the many courtesies I have received from your good offices during the past fiscal year.

MANITOBA

H. W. Cooper, Warden, reports:

I have to report a successful twelve months ending March 31, 1923.

The test of any penal system is the number of men returned to ordinary life as good citizens, although general trade and social conditions, determining the employment and environment of released men, are, of course, large factors in the problem. The only data at present obtainable is the number of men who return to the penitentiary for another term. While this is somewhat negative, it is satisfactory to note that, of the eighty-one inmates received during the twelve months, only three had previously completed terms in this penitentiary, and three others were returned, having failed to make good after parole from this institution.

The conduct of the men was such that forty paroles were granted during the twelve months, a remarkably high percentage.

Satisfactory progress has been made with the new cell wing, this building being roofed in, to permit of interior work being carried on throughout the winter. This building is mainly constructed of stone, quarried from the penitentiary yard, and as is usual in Canadian penitentiaries, the work has been performed throughout by inmate labour, mostly unskilled, under the supervision of the penitentiary officers. Visitors have expressed surprise at the nature of the work performed, without outside assistance. The results are most creditable to Chief Trade Instructor Bloomfield and the mason and carpenter instructors.

Sufficient work has been found to avoid the re-establishing of a stone pile, and not one ounce of stone has been broken by hand during the past twelve months.

A number of officers' dwellings have received a much needed renovation, and the main damage caused by the storm of June, 1922, repaired. Despite this extra expense, I am happy to be able to report that the sum of $13,978.94 has been returned from the appropriation.

Several changes have taken place in the staff, and vacancies in higher offices have been filled by promotion. The morale of the guards is good, and it is largely owing to the vigilance of the disciplinary staff that no escapes took place during the year, and determined preparations for one attempted escape were promptly detected.

The influence of the mission held in the spring of 1922, has remained throughout the year a great factor for good. An inmate serving a life sentence, suggested the formation of a Bible class. This suggestion was readily adopted, and from forty-five to fifty inmates voluntarily attend a class every Sunday morning, in addition to the usual compulsory service. Too much praise cannot be bestowed upon the Protestant chaplain, for his wise and sympathetic leadership.

The Rev. Monsignor Blair, V.G., returned to parish work on October 26, 1922, and Father Heffron succeeded him as Catholic chaplain. A catechism class has now been formed for inmates of the Catholic faith.

The rebuilding of men is mainly a mental problem, a large percentage of inmates entering penitentiaries through warped mental attitudes. The work of the school has been directed with the object of correcting these views and to the inculcation of happier outlooks upon life.

Dr. Riddell, president of Wesley College, has taken a great interest in this work, and with the co-operation of some of his professors, a matriculation class has been commenced. Three of the members of this class are men who, while still youths, were sentenced to life imprisonment. Despite their lack of early education they have proved to be assiduous students and the work of the class has had an amazing effect upon their characters and ideals.

One feature of the school is the work of the inmate monitors. The experience of standing before a class of fellow inmates giving instruction, induces confidence and develops the much needed qualities of initiative and understanding of the other fellow's viewpoint.

The average inmate displays the common human trait of placing the blame for his misfortunes anywhere than upon himself, resulting in a sour attitude towards society. A number of concerts have been held with the object of taking the men out of themselves. Experience shows that when a man laughs wholeheartedly, he is half rebuilt.

RECOMMENDATIONS

I would strongly recommend that your suggestion of a provincial parole officer be adopted. While the percentage of paroled men who failed to make good is more or less satisfactory, the system could be further extended, with benefit to the community as well as the inmates, if a more efficient form of supervision were provided. One youth was paroled late in 1922 on condition that he return to the home of his parents and go to work to earn an honest livelihood. Some time afterwards his mother wrote to me as follows:

> I am writing to you in regard to my son, now out on parole since December 26. His parole specifies he must go to work immediately. Well, up to the present he has not done one day's work; of course we must admit there has been no work for anyone until the past month. There are plenty of farm jobs, but he does not seem inclined to go. There is no prospect of anything in town, perhaps for two months. I have talked and scolded until I'm tired of it. There is no reason why he cannot go on a farm, only he thinks the pay is too small. But I think a farm is the best place for him. Yesterday he came in and wanted me to give him money to go to.....to hire with a company going to the Yukon. But I did not consider it a very good place for a young man. His dad thinks that Yukon story is only a blind. Now I wish to ask if you will write him a sharp letter and gave him only a few days to get to work. . . . I think a word from you will be sufficient. . . . I think you will agree with me in this matter, and if you write him, I will let you know what he does. I realize it is for his own good.

As a result of pressure brought to bear upon the young man, further complaint was avoided and the youth enabled to escape revocation of license.

The work of a parole officer, as suggested, could also cover the provision of employment for inmates upon discharge, a task which is, at present, partly performed by the warden with the co-operation of a number of friends in the city of Winnipeg.

In educational institutions the "tone of the school" is counted as a most potent factor in the formation of character. The tone of the institution is even more important in a penitentiary, the force of general opinion being much stronger among inmates than outside, owing to the men being continually in association with one another. The example of a number of inmates conscientiously and industriously endeavouring to make use of the opportunities provided for them, has a most beneficial effect upon others, who are simply drifting, but the example of these men is rendered less effective by other inmates of confirmed anti-social tendencies, who sneer at society and ridicule all attempts to rebuild character. Every effort is made to segregate men of this type, but the provision of another institution for habitual offenders would permit the granting of greater privileges to the deserving cases.

The provision of a Central Criminal Insane Asylum is urgent. The number of defectives in a penitentiary is not so large as is generally supposed, but there are cases where crimes have been committed as a result of insane tendencies, which have developed after sentence. While the best possible is done for such unfortunates, they remain a menace to the penitentiary owing to the lack of facilities for affording proper care.

In connection with the insane, it is noteworthy that of the eight insane men, for whose maintenance Manitoba penitentiary is responsible, only one is a Canadian by birth.

At Manitoba penitentiary the positions of accountant and store-keeper are combined. In my opinion this does not make for efficiency, owing to the large amount of detail involved in both positions. I recommend that the practice of other penitentiaries be followed and the positions separated.

The presence of several chronic cases in the hospital has made necessary the employment of a temporary night hospital nurse. This position should be made permanent.

Our large rebuilding and improvement programme requires the appointment of a carpenter instructor.

Our old friends, the Salvation Army, have continued their interest in the inmates previous to and after discharge.

I have to thank the Rev. Dr. Aikens and the Rev. Dr. McLean of Winnipeg for their visits and valuable assistance, the Winnipeg Permanent Players, Mr. Hugo Rignold's orchestra, and among others, Mr. George Brown, Mr. Sandy Phimister, the Kiwanis Club and the officials of the Employment Service of Canada for their sympathetic help.

The administration of the penitentiary is fortunate indeed in finding in Winnipeg and the province so general a spirit of co-operation and support.

Your visit to the institution proved most helpful, and I trust we will long continue to receive the benefit of your years of experience in matters criminological.

BRITISH COLUMBIA

W. A. Patchell, Warden, reports:

The year commenced with 197 inmates and closed with a population of 216. A noticeable feature of the convictions against inmates received during the year was the large number of offenders against the Opium and Narcotic Drug Act. Of the 33 inmates received under this heading, 23 were Orientals, and in accordance with section 10B of the above Act, the question of deportation has been taken up with the Department of Immigration and Colonization in the case of all aliens convicted, even though they may have become domiciled.

The year under review has been free from unpleasantness. The health of the inmates has been good and no deaths or escapes occurred. With one or two exceptions the prisoners have behaved well, and discipline among the officers has also been very satisfactory.

An occasional moving-picture entertainment continues to provide great pleasure to the inmates and gives them an interesting break from the routine of prison life.

I am satisfied that the present chaplains are doing everything possible to attend to the spiritual welfare of the inmates under their care, and I am confident that in consequence of the moral and religious teaching imparted many of the inmates have realized the error of their ways. Great interest was taken by the inmates in the mission held during the week of March 19 to 25, 1923, and I feel sure that much spiritual good resulted. I must admit that when

it was suggested that a mission be held here, I was inclined to view same with a certain feeling of trepidation, but after seeing the results accomplished I would now recommend that a mission along the lines of the one conducted be held yearly.

The school teacher and librarian takes a keen interest in his work, and as will be noted from his monthly reports forwarded, he is making good progress in attending to the requirements of the inmates as regards education and literature.

Many inmates have been taught the blacksmith, tailoring, shoemaking, and carpentry trades. It would have been possible to increase the number if it could be arranged to do work in these shops for other Government departments.

Throughout the year certain construction work authorized was energetically pursued. Five hundred feet of new concrete boundary wall was completed and the work reflects great credit on the chief trade instructor and inmates employed thereon.

Suitable quarters were provided for the chief keeper's department, filling a long felt necessity. Adequate storage facilities for clothing, etc., and the installation of modern bathing system has brought this department up to date.

The deputy warden's residence was thoroughly renovated and put into first-class shape. Interior decorative work was also done to the warden's house. Other work included painting the central hall and east wing with a white gloss paint that continues to look clean and bright, and is greatly admired by all.

The chief trade instructor's report contains details of other tasks performed.

We were fortunate in receiving a visit from the superintendent, Inspector Fatt and the structural engineer, during the summer. Many new proposals had been left in abeyance as it was not possible to deal with them satisfactorily by correspondence. As a result of this visit of inspection certain changes and proposals were adopted and a definite building construction programme laid down which will ultimately prove of much benefit to the institution.

A high standard, both in quality and quantity, was maintained in the feeding of the inmates. It seems hardly credible that throughout the year not one complaint was made to me by an inmate regarding rations, although I am at all times willing to investigate any that may be made. This in itself goes to show that the steward is conducting the kitchen in a capable manner.

I regret that at the time it was arranged to hold the conference of penitentiary wardens in Ottawa, the condition of my health made the long railway journey inadvisable. Arrangements were, therefore, made to have Mr. G. W. Trollope, Deputy Warden of this penitentiary, attend the conference, and all matters under consideration were discussed upon his return.

I wish to thank the members of the staff for the unfailing support they have given, and beg to tender my heartfelt appreciation for the kind assistance that has always been received from the superintendent and his staff in Ottawa.

Crime statistics and other reports are attached.

SASKATCHEWAN

W. J. Macleod, Warden, reports:

The population has increased during the year by 93. This increase was made up by the transfer of 75 men from the penitentiary at Kingston together with those received from the courts of the provinces of Saskatchewan and Alberta. I inclose reports from our surgeon, Dr. J. S. Chisholm; Protestant chaplain, Rev. Canon J. I. Strong; Catholic chaplain, Rev. Father J. H. Brodeur; chief trade instructor, R. M. Allan; school teacher and librarian, A. McIntosh, and also the other usual reports.

Considerable work has been done during the past year. The cell dome has been finished; the administration wing completed and occupied; fourteen isolation cells have been built; excavation for wall commenced and part of concrete foundation mat, extending from front of north wing, west, poured; 410,000 bricks of good quality were made and burned; sewage disposal plant enlarged; two new wells were sunk; during the winter 186 cords of wood for firing brick kiln were cut on our wood reserve and hauled to the prison, a distance of six miles; also 4,000 yards of gravel were hauled a distance of eight miles from our prison gravel pit. During the summer and fall, when not otherwise employed, the motor trucks also were employed hauling gravel from the pit, making three trips each day. In this way we were able to provide sufficient gravel to meet the requirements of the work under construction.

Our school teacher continues to do good work. About seventy-five per cent of his pupils are foreigners who are being taught to read and write English.

The library is well looked after and the new educational and other books which have been purchased are very much appreciated by the inmates. We had some 568 acres under cultivation, off of which we gathered 11,247 bushels of oats, 1,350 bushels of barley, 560 bushels of wheat, 24 tons of green feed, 150 loads of cultivated hay, 135 loads of wild hay, 4,588 bushels of potatoes, 490 bushels of carrots, 356 bushels of turnips, 275 bushels of parsnips, 32 bushels of beets, 6,500 heads of cabbage, 60 bushels of onions, 75 bushels of mangolds, and also all kinds of green garden truck when in season.

The steward was also furnished with all of the pork he used throughout the year.

The chaplains report the conduct of all inmates while at divine service as good. They take great interest in their work and are doing much for the moral uplift of the inmates.

The missions held in the churches during the past winter were a source of great comfort to the men, many of whom have shown by their behaviour since that time that the influence of such missions is for good.

The surgeon reports that sanitary conditions and ventilation of the various buildings are good, and there has not been any serious illness among the inmates. I wish to thank the members of my staff who have loyally supported me during the year and also the Superintendent and his staff for the courteous treatment and assistance given me at all times.

APPENDIX C—EXPENDITURE

KINGSTON

Staff—		
Salaries and retiring allowances	$161,849 86	
Uniforms and mess	5,257 82	
Bonus	33,001 50	
		$200,109 18
Maintenance of Inmates—		
Rations	44,188 68	
Clothing and hospital	22,789 66	
		66,978 34
Discharge Expenses—		
Freedom suits and allowances	7,115 61	
Transfer and interment	7,807 53	
		14,923 14
Working Expenses—		
Heat, light and water	37,704 08	
Maintenance of buildings and machinery	9,767 58	
Chapels, schools and library	1,934 90	
Office expenses	3,025 38	
		52,431 94
Industries—		
Farm	2,617 21	
Trade shops	33,876 78	
		36,493 99
Prison Equipment—		
Machinery	18,641 19	
Furnishings	5,501 48	
Utensils and vehicles	1,344 80	
Land, buildings and walls	22,930 20	
		48,417 67
Miscellaneous—		
Advertising and travel	1,855 90	
Special	1,240 60	
		3,096 50
Total		$422,450 76

ST. VINCENT DE PAUL

Staff—		
Salaries and retiring allowances	$144,797 57	
Uniforms and mess	10,461 85	
Bonus	31,845 67	
		$187,105 09
Maintenance of Inmates—		
Rations	35,192 38	
Clothing and hospital	18,185 69	
		53,378 07
Discharge expenses—		
Freedom suits and allowances	3,025 34	
Transfer and interment	325 25	
		3,350 59
Working expenses—		
Heat, light and water	28,638 60	
Maintenance of buildings and machinery	33,675 68	
Chapels, schools and library	4,653 48	
Office expenses	3,327 49	
		70,295 25
Industries—		
Farm	16,807 24	
Trade shops	12,963 74	
		29,770 98
Prison equipment—		
Machinery	7,693 85	
Furnishings	3,254 52	
Utensils and vehicles	11,723 38	
Land, buildings and walls	64,979 67	
		87,651 42
Miscellaneous—		
Advertising and travel	2,008 94	
Special	640 89	
		2,649 83
Total		$434,201 23

EXPENDITURE—*Continued*

DORCHESTER

Staff—		
Salaries and retiring allowances	$ 87,976 40	
Uniforms and mess	5,236 87	
Bonus	17,395 50	
		$ 110,608 77
Maintenance of Inmates—		
Rations	24,199 40	
Clothing and hospital	9,314 25	
		33,513 65
Discharge expenses—		
Freedom suits and allowances	4,669 49	
Transfer and interment	32 39	
		4,701 88
Working expenses—		
Heat, light and water	17,524 91	
Maintenance of buildings and machinery	7,701 89	
Chapels, schools and library	1,238 79	
Office expenses	2,616 78	
		29,082 37
Industries—		
Farm	6,178 83	
Trade shops	6,751 81	
		12,930 64
Prison equipment—		
Machinery	831 01	
Furnishings	2,327 04	
Utensils and vehicles	6,297 28	
Land, buildings and walls	44,648 59	
		54,103 92
Miscellaneous—		
Advertising and travel	973 45	
Special	1,967 34	
		2,940 79
Total		$ 247,882 02

MANITOBA

Staff—		
Salaries and retiring allowances	$ 81,254 15	
Uniforms and mess	3,172 04	
Bonus	12,867 12	
		$ 97,293 31
Maintenance of Inmates—		
Rations	13,435 98	
Clothing and hospital	7,258 48	
		$ 20,694 46
Discharge expenses—		
Freedom suits and allowances	1,894 57	
Transfer and interment	1,186 49	
		$ 3,081 06
Working expenses—		
Heat, light and water	24,773 35	
Maintenance of buildings and machinery	10,945 83	
Chapels, schools and library	946 21	
Office expenses	2,023 28	
		$ 38,688 67
Industries—		
Farm	3,266 55	
Trade Shops	5,294 53	
		$ 8,561 08
Prison equipment—		
Machinery	1,044 86	
Furnishings	1,734 14	
Utensils and vehicles	1,034 53	
Land, buildings and walls	19,394 92	
		$ 23,208 45
Miscellaneous—		
Advertising and travel	957 24	
Special	765 65	
		$ 1,722 89
Total		$ 193,249 92

EXPENDITURE—*Continued*

BRITISH COLUMBIA

Staff—			
Salaries and retiring allowances	$ 65,329 91		
Uniforms and mess	3,911 46		
Bonus	11,296 11		
		$ 80,537 48	
Maintenance of Inmates—			
Rations	13,298 44		
Clothing and hospital	5,187 56	$ 18,486 00	
Discharge expenses—			
Freedom suits and allowances	1,102 21		
Transfer and interment	.....		
		1,102 21	
Working expenses—			
Heat, light and water	3,560 71		
Maintenance of buildings and machinery	4,717 64		
Chapels, schools and Library	553 11		
Office expenses	1,368 91		
		$ 10,200 37	
Industries—			
Farm	1,285 33		
Trade shops	4,720 06		
		$ 6,005 39	
Prison equipment—			
Machinery	7 67		
Furnishings	585 73		
Utensils and vehicles	822 45		
Land, buildings and walls	10,486 09		
		$ 11,901 94	
Miscellaneous—			
Advertising and travel	1,270 20		
Special	50 00		
		$ 1,320 20	
Total			$ 129,553 59

ALBERTA

Staff—			
Salaries and retiring allowances	$ 2,280 00		
Uniforms and mess	.....		
Bonus	60 00		
		$ 2,340 00	
Maintenance of Inmates—			
Rations	.....		
Clothing and hospital	.....		
Discharge expenses—			
Freedom suits and allowances	.....		
Transfer and interment	.....		
Working expenses—			
Heat, light and water	28 10		
Maintenance of buildings and machinery	60 60		
Chapels, schools and library	.....		
Office expenses	378 22		
		466 92	
Industries—			
Farm	.....		
Trade shops	.....		
Prison equipment—			
Machinery	.....		
Furnishings	.....		
Utensils and vehicles	.....		
Land, buildings and walls	.....		
Miscellaneous—			
Advertising and travel	.....		
Special	197 69		
		197 69	
Total			3,004 61

EXPENDITURE—*Concluded*

SASKATCHEWAN

Staff—		
Salaries and retiring allowances	$ 77,294 19	
Uniforms and mess	6,861 76	
Bonus	15,019 58	
		$ 99,175 53
Maintenance of Inmates—		
Rations	17,262 27	
Clothing and hospital	11,447 10	
		28,709 37
Discharge expenses—		
Freedom suits and allowances	1,933 56	
Transfer and interment	2,368 15	
		4,301 71
Working expenses—		
Heat, light and water	22,289 74	
Maintenance of buildings and machinery	6,718 46	
Chapels, schools and library	940 00	
Office expenses	1,775 67	
		31,723 87
Industries—		
Farm	8,977 08	
Trade shops	5,201 30	
		14,178 38
Prison equipment—		
Machinery	3,484 45	
Furnishings	1,761 45	
Utensils and vehicles	6,309 52	
Land, buildings and walls	101,828 03	
		113,383 45
Miscellaneous—		
Advertising and travel	948 95	
Special	335 94	
		1,284 89
Total		292,757 20

PENITENTIARIES GENERAL

Salaries and Bonus	$ 65 60
Assistance to paroled inmates	21 89
Office expenses	280 62
Total	$ 368 11

APPENDIX D—LIST OF OFFICERS

As on March 31, 1923

KINGSTON

Name	Rank	Creed	Date of Birth	Date of first Permanent Appointment	Date of Present Appointment	Salary
General—						
(a) Ponsford, J. C.	Warden	Church of England	Dec. 5, 1863	Mar. 4, 1913	Mar. 4, 1913	$3,420
Anglin, W. G., M.D.	Surgeon	Methodist	Oct. 8, 1856	May 1, 1920	May 1, 1920	2,640
McDonald, Rev. M.	Chaplain	Roman Catholic	Aug. 4, 1853	Sept. 30, 1899	Sept. 30, 1899	1,500
Dobbs, Rev. O. G.	Chaplain	Church of England	Feb. 19, 1853	Mar. 29, 1913	Mar. 29, 1913	1,50(
Minnes, T. D.	Accountant	Presbyterian	May 29, 1859	Mar. 13, 1913	Mar. 13, 1913	2,28(
Robinson, A. N.	Storekeeper	Church of England	Aug. 12, 1873	Feb. 1, 1921	Dec. 1, 1921	1,38(
Van Alstyne, C. S.	Warden's clerk	Methodist	Jan. 7, 1891	Mar. 17, 1921	Mar. 17, 1921	1,32(
(b) Keech, H. L.	"	Methodist	May 6, 1890	Oct. 1, 1914	May 1, 1918	1,440
Caughey, R. A.	Clerical assistant	Presbyterian	Jan. 23, 1870	Nov. 1, 1903	Dec. 19, 1912	1,440
Begg, H. S.	"	Church of England	Oct. 27, 1879	Oct. 1, 1902	June 11, 1914	1,440
(c) Cleeton, H.	"	"	Sept. 23, 1888	July 1, 1914	Nov. 1, 1921	1,260
Hora, H.	"	"	Nov. 25, 1879	Mar. 3, 1922	Mar. 3, 1922	1,200
Crossley, A.	School Teacher and Librarian	Methodist	Sept. 8, 1873	July 4, 1921	July 4, 1921	1,380
Kerrison, H. S.	Steward	Church of England	Oct. 26, 1883	April 30, 1920	April 30, 1920	1,620
Madden, P.	Assistant Steward	Roman Catholic	April 27, 1864	Aug. 1, 1889	Aug. 1, 1913	1,260
(d) Edgar, J. D.	"	Presbyterian	Dec. 1, 1870	May 8, 1916	May 8, 1916	1,260
Raven, A. M.	Hospital Nurse	Church of England	April 18, 1893	June 15, 1920	Sept. 1, 1920	1,200
McConnell, A. D.	"	"	Jan. 29, 1886	Sept. 11, 1920	Sept. 11, 1920	1,200
Draper, M. G.	Matron	Methodist	Jan. 23, 1866	Mar. 22, 1920	Dec. 1, 1920	1,140
Dromgole, A. G.	Assistant Matron	Roman Catholic	Jan. 18, 1893	July 6, 1921	July 6, 1921	1,020
Hartrick, A. J.	"	Church of England	April 17, 1877	April 1, 1922	April 1, 1922	960
(e) Nixon, T.	Engineer	"	Feb. 7, 1873	Mar. 19, 1920	Mar. 19, 1920	1,980
McKay, W.	Assistant Engineer	Presbyterian	Nov. 6, 1870	April 4, 1919	April 4, 1919	1,440
Irwin, W.	"	Church of England	Sept. 5, 1867	May 12, 1919	May 12, 1919	1,440
(f) Dennison, G. R.	"	Baptist	Oct. 1, 1884	Jan. 13, 1921	Jan. 13, 1921	1,320
Tollerst, W.	Fireman	Church of England	Feb. 9, 1871	Jan. 1, 1911	Jan. 1, 1911	1,200
Bell, G.	"	"	Mar. 3, 1872	July 1, 1916	July 1, 1916	1,140
Driscoll, D.	"	Roman Catholic	May 15, 1872	Mar. 1, 1919	Mar. 1, 1919	1,140
Botting, G.	Fireman	Church of England	Ooc. 10, 1874	Nov. 4, 1919	Nov. 4, 1919	1,140
Industrial—						
Burns, R. J.	Chief Trade Instructor	"	July 23, 1855	June 1, 1895	July 1, 1903	1,800
Tweddell, J.	"	Methodist	Jan. 22, 1876	Mar. 23, 1903	Aug. 1, 1918	1,800
Beaupré, P. M.	Industrial Guard Quarry	Roman Catholic	July 29, 1860	Jan. 10, 1885	April 1, 1903	1,320
Walker, H. L.	" Blksm.	Church of England	Mar. 25, 1865	April 3, 1897	April 3, 1897	1,320
Doyle, F.	" M. Bags	Roman Catholic	Sept. 9, 1877	Aug. 1, 1906	Aug. 1, 1918	1,260
Sullivan, G.	" "	"	April 20, 1875	April 1, 1895	Oct. 1, 1918	1,260
(g) Corbett, A. J.	" Carpenter	Presbyterian	Feb. 8, 1873	Oct. 1, 1918	Oct. 1, 1920	1,380
(h) Macdonald, J. A.	" Tailor	"	June 17, 1871	Nov. 10, 1914	Nov. 10, 1914	1,260
Scott, J. A.	" Shoemaker	Church of England	June 27, 1871	Jan. 13, 1921	Jan. 13, 1921	1,140
Mills, J. H.	" Tinsm.	Methodist	Jan. 9, 1885	Jan. 26, 1921	Jan. 26, 1921	1,140
Wilson, J. A.	" Mason	Presbyterian	Aug. 5, 1875	June 1, 1906	April 1, 1919	1,260
Van Luven, R. M.	" Farmer	Church of England	Nov. 23, 1868	April 1, 1922	April 1, 1922	1,080
Villard, L. D.	" Mason	Roman Catholic	June 19, 1889	May 11, 1921	May 1, 1922	1,080
Stagg, G. H.	" "	Methodist	May 4, 1893	July 1, 1922	July 1, 1922	1,080
Burton, G.	" Stonecutter	Presbyterian	April 6, 1875	Dec. 26, 1922	Dec. 26, 1922	1,080
Police—						
(i) Tucker, R. R.	Deputy Warden	Church of England	April 5, 1880	May 6, 1914	Jan 1, 1921	2,040
Walsh, M. J.	Chief Keeper	Roman Catholic	Mar. 4, 1875	Aug. 1, 1905	Mar. 1, 1921	1,740
(j) Clayton, T.	Chief Watchman	Church of England	May 19, 1879	Nov. 20, 1913	May 1, 1918	1,500
Kennedy, M. J.	Guard	Roman Catholic	April 18, 1857	April 1, 1872	May 1, 1884	1,200
McConville, A.	"	"	July 4, 1862	July 1, 1885	July 1, 1885	i,200
Matthews, W. H.	"	Church of England	Oct. 20, 1865	Aug. 1, 1899	Aug. 1, 1899	1,200
McWaters, J.	"	Methodist	Sept. 1, 1861	Aug. 1, 1899	Aug. 1, 1899	1,200
Germain, D.	"	"	April 4, 1870	Aug. 1, 1899	Aug. 1, 1899	1,200
Berrigan, J. L.	"	Roman Catholic	July 8, 1867	Nov. 1, 1904	Nov. 1, 1904	1,200
Powell, H. J.	"	Methodist	Aug. 24, 1873	Aug. 1, 1905	Aug. 1, 1905	1,200
Lawless, J. J.	"	Roman Catholic	April 3, 1874	Nov. 1, 1906	Nov. 1, 1906	1,200
Donoghue, J. V.	"	"	July 9, 1880	Oct. 1, 1907	Oct. 1, 1907	1,200
Nolan, G. P.	"	"	April 3, 1872	Nov. 1, 1907	Nov. 1, 1907	1,200
Walsh, W. L.	"	"	July 28, 1885	July 1, 1910	July 1, 1910	1,200
Bird, P.	"	"	Dec. 16, 1875	July 1, 1910	July 1, 1910	1,200

(a) Transferred from Alberta, April 1, 1920.
(b) Transferred from Alberta, July 1, 1920.
(c) Transferred from Alberta, May 1, 1920.
(d) Transferred from Alberta Sept. 1, 1920.
(e) Transferred from Dorchester, Oct. 1, 1920.
(f) Resigned Mar. 31, 1923.
(g) Transferred from Alberta, Sept. 1, 1920.
(h) Transferred from Alberta, Sept. 1, 1920.
(i) Transferred from Alberta, April 1, 1920.
(j) Transferred from Alberta, April 15, 1920.

LIST OF OFFICERS—*Continued*

AS ON MARCH 31, 1923—*Continued*

KINGSTON—*Concluded*

Name	Rank	Creed	Date of Birth	Date of first Permanent Appointment	Date of Present Appointment	Salary
Police—Con						
Clark, R. A	Guard	Church of England	Sept. 15, 1881	April 1, 1912	April 1, 1912	$1,200
Donaldson, S	"	Presbyterian	Sept. 8, 1878	June 1, 1913	June 1, 1913	1,200
Sears, R. W	"	Methodist	May 24, 1885	Feb. 1, 1914	Feb. 1, 1914	1,200
(*k*) Stead, W. G	"	"	July 29, 1883	July 1, 1914	July 1, 1914	1,200
Barr, A	"	Presbyterian	Dec. 1, 1879	May 1, 1914	May 1, 1914	1,140
Tobin, T	"	Roman Catholic	Mar. 28, 1880	Dec. 1, 1914	Dec. 1, 1914	1,140
Duffey, B. F	"	"	Nov. 13, 1893	Nov. 1, 1914	Nov. 1, 1914	1,140
Clarke, T. N	"	Methodist	Aug. 14, 1889	Dec. 1, 1914	Dec. 1, 1914	1,140
Filson, H. K	"	Presbyterian	Feb. 9, 1880	Aug. 1, 1914	Aug. 1, 1914	1,140
Miles, R. J	"	Roman Catholic	Jan. 27, 1892	Oct. 3, 1919	Oct. 3, 1919	1,140
Gilbey, J	"	Church of England	Nov. 4, 1889	Oct. 31, 1919	Oct. 31, 1919	1,140
Pullen, A	"	"	July 10, 1894	Oct. 25, 1919	Oct. 25, 1919	1,140
Tyson, W. E	"	"	Sept. 13, 1891	Oct. 17, 1919	Oct. 17, 1919	1,140
Archibald, W. N	"	"	April 8, 1895	Oct. 15, 1919	Oct. 15, 1919	1,140
Wendholt, H	"	"	Jan. 27, 1893	Dec. 22, 1919	Dec. 22, 1919	1,140
Barton, F	"	"	Aug. 10, 1894	Dec. 22, 1919	Dec. 22, 1919	1,140
Marshall, F. X	"	Roman Catholic	July 22, 1893	Dec. 22, 1919	Dec. 22, 1919	1,140
Nicholson, K	"	Church of England	April 6, 1898	Dec. 22, 1919	Dec. 22, 1919	1,140
Cox, W. J	"	"	Dec. 13, 1886	Dec. 28, 1919	Dec. 28, 1919	1,140
Atkins, J	"	"	Oct. 27, 1886	Jan. 29, 1920	Jan. 29, 1920	1,080
(*l*) Wand, G. G	"	Presbyterian	June 4, 1881	Feb. 21, 1920	Feb. 21, 1920	1,030
Patterson, J. K	"	Church of England	Aug. 22, 1898	April 9, 1920	April 9, 1920	1,080
Hood. J. C	"	"	April 5, 1893	May 1, 1920	May 1, 1920	1,080
McKay, A. D	"	Presbyterian	Dec. 5, 1882	May 1, 1920	May 1, 1920	1,080
Edwards, J. S	"	Church of England	May 15, 1889	May 1, 1920	May 1, 1920	1,080
Brown, A. D	"	"	Sept. 11, 1886	June 10, 1920	June 10, 1920	1,080
Halligan, J	"	"	June 10, 1883	June 10, 1920	June 10, 1920	1,080
(*m*) Robinson, W. C	"	"	Mar. 4, 1895	June 21, 1920	June 21, 1920	1,080
Walsh, T. J	"	Roman Catholic	Feb. 5, 1887	June 16, 1920	June 16, 1920	1,080
Forsythe, A	"	Church of England	Sept. 15, 1893	July 27, 1920	July 27, 1920	1,080
Scammell, E	"	"	Feb. 29, 1884	Aug. 12, 1920	Aug. 12, 1920	1,080
Shurtliff, L	"	Methodist	Feb. 17, 1901	Aug. 24, 1920	Aug. 24, 1920	1,080
(*n*) Lowes, P. S	"	Church of England	Jan. 29, 1883	Oct. 2, 1920	Oct. 2, 1920	1,080
Snook, H. S	"	Methodist	Mar. 17, 1893	Nov. 15, 1920	Nov. 15, 1920	1,080
Wickham, W	"	Church of England	Dec. 31, 1898	Nov. 29, 1920	Nov. 29, 1920	1,080
Dixon, I	"	Presbyterian	Dec. 8, 1897	Dec. 22, 1920	Dec. 22, 1920	1,080
Sullivan, Leo	"	Roman Catholic	April 23, 1887	July 14, 1920	July 14, 1920	1,080
Davidson, S. C	"	Presbyterian	Dec. 4, 1898	Dec. 22, 1920	Dec. 22, 1920	1,080
Stephenson, J. W	"	Church of England	May 7, 1899	Jan. 18, 1921	Jan. 18, 1921	1,020
West, W. H	"	"	Mar. 17, 1897	Jan. 18, 1921	Jan. 18, 1921	1,020
Bocking, G. F	"	Presbyterian	July 11, 1889	Jan. 18, 1921	Jan. 18, 1921	1,020
Taylor, W. S	"	Church of England	Jan. 4, 1893	Jan. 18, 1921	Jan. 18, 1921	1,020
Jenkin, M. E	"	Roman Catholic	Dec. 1, 1891	Jan. 18, 1921	Jan. 18, 1921	1,020
Walker, L. I	"	Church of England	Aug. 27, 1889	Jan. 18, 1921	Jan. 18, 1921	1,020
Angrove, T. H	"	Methodist	Nov. 2, 1894	Jan. 18, 1921	Jan. 18, 1921	1,020
Bearance, R. E	"	"	July 14, 1895	Jan. 18, 1921	Jan. 18, 1921	1,020
Earl, O. A	"	"	Oct. 28, 1897	Jan. 28, 1921	Jan. 28, 1921	1,020
Turpin, R. O	"	Church of England	Oct. 26, 1887	Feb. 1, 1921	Feb. 1, 1921	1,020
Bushey, W	"	"	Nov. 4, 1889	Feb. 11, 1921	Feb. 11, 1921	1,020
Spence, L. P	"	"	Mar. 12, 1881	Mar. 19, 1921	Mar. 19, 1921	1,020
Woodhouse, H	"	Baptist	Sept. 17, 1893	Mar. 21, 1921	Mar. 21, 1921	1,020
Hart, C. R	"	Church of England	May 2, 1894	April 12, 1921	April 12, 1821	1,020
Laidlaw, R. J	"	"	Mar. 2, 1880	April 23, 1921	April 23, 1921	1,020
Ferris, G. D	"	"	May 5, 1882	April 28, 1921	April 28, 1921	1,020
Faulkner, J	"	"	April 22, 1898	June 4, 1921	June 4, 1921	1,020
Parker, R	"	"	July 29, 1892	Feb. 1, 1922	Feb. 1, 1922	960
Haunts, H	"	"	April 6, 1889	June 30, 1922	June 30, 1922	960
Fraser, A. O	"	Presbyterian	June 20, 1886	July 1, 1922	July 1, 1922	960
Westlake, C. F	"	Church of England	May 1, 1899	July 1, 1922	July 1, 1922	960
Godwin, H. A	"	"	Mar. 7, 1895	July 1, 1922	July 1, 1922	960
Millard, L. H	"	"	Nov. 25, 1897	July 1, 1922	July 1, 1922	960
Twigg, W. A	"	"	May 13, 1894	Aug. 1, 1922	Aug. 1, 1922	960
Holland, C. J	"	Methodist	Dec. 25, 1894	Oct. 1, 1922	Oct. 1, 1922	960
Haynes, W. H	"	"	Jan. 12, 1900	Oct. 1, 1922	Oct. 1, 1922	960
Otten, H. J	"	Salvationist	Sept. 26, 1894	Feb. 13, 1923	Feb. 13, 1923	960

(*k*) Transferred from Alberta, April 23, 1920.
(*l*) Transferred from St. V. de Paul, Sept. 27, 1921.
(*m*) Transferred from Dorchester, June 1, 1921.
(*n*) Transferred from Alberta, Sept. 1, 1920.

LIST OF OFFICERS—*Continued*

AS ON MARCH 31, 1923—*Continued*

ST. VINCENT DE PAUL

Name	Rank	Creed	Date of Birth	Date of first Permanent Appointment	Date of Present Appointment	Salary
General—						
Girouard, R. A. de la B	Warden	Roman Catholic	Jan. 29, 1882	May 23, 1921	May 23, 1921	$2,820
Robert, L.,M.D	Physician	"	Feb. 26, 1890	Sept. 1, 1921	Sept. 1, 1921	2,520
Godard, Rev. H	Chaplain	Church of England	Sept. 14, 1865	June 1, 1917	June 1, 1917	1,500
Verschelden, Rev. L	"	Roman Catholic	Aug. 3, 1885	Mar. 1, 1923	Mar. 1, 1923	1,500
Garceau, Ed	Prin. Acct. Clerk	"	June 9, 1879	Nov. 1, 1916	Mar. 1, 1919	2,160
Préfontaine, A	Senior Stores Clerk	"	Oct. 24, 1861	June 1, 1911	June 1, 1911	1,560
Poirier, I. A	Office Asst. to Warden	"	Oct. 15, 1887	Oct. 3, 1921	Jan. 1, 1922	1,320
Sigouin, Arm	P.C. Bookkeeper	"	May 24, 1890	Sept. 1, 1917	Aug. 1, 1919	1,440
Murphy, J. M. R	Prison Clerk	"	Mar. 18, 1885	Nov. 1, 1906	Aug. 1, 1919	1,380
Jobin, E	Steward	"	Oct. 28, 1875	Sept. 1, 1902	Aug. 1, 1907	1,740
Aubé, W	Asst. Steward	"	Oct. 5, 1872	July 1, 1901	Nov. 1, 1906	1,320
Lapierre, R. P	Teacher and Librarian	Presbyterian	Mar. 8, 1896	June 3, 1921	June 3, 1921	1,380
Champagne, P. E	Stm. Pwr. Plt. Engineer	Roman Catholic	Oct. 4, 1879	May 1, 1913	May 1, 1913	2,100
Chateauvert, A. P	Asst. Stm. Pwr. Plt. Engineer	"	Nov. 24, 1878	Jan. 15, 1914	Jan. 15, 1914	1,500
Jubinville, A	Asst. Stm. Pwr. Plt. Engineer	"	Dec. 29, 1866	Dec. 9, 1901	June 1, 1919	1,440
Sproston, E	Asst. Stm. Pwr. Plt. Engineer	Church of England	July 19, 1896	Apr. 13, 1921	May 9, 1921	1,320
Lambert, E	Prison Gd. Fireman	Roman Catholic	July 15, 1894	Nov. 30, 1921	Nov. 30, 1921	1,020
Forget, P	Pen. Nurse	"	May 18, 1893	Sept. 13, 1922	Sept. 13, 1922	1,080
Riendeau, J. B	"	"	May 24, 1896	Oct. 22, 1921	Nov. 1, 1922	1,080
Industrial—						
Donnelly, H. H	Chief Trade Instructor	Presbyterian	Aug. 4, 1887	Jan. 30, 1922	Jan. 30, 1922	1,440
Pepin, J. E	Ind. Gd. Tailor	Roman Catholic	Dec. 13, 1872	Nov. 28, 1910	Nov. 28, 1910	1,320
Godin, F. X	Ind. Gd. Carpenter	"	Oct. 17, 1879	July 1, 1912	July 1, 1912	1,320
Galarneau, I	" Stn. Ctr	"	Jan. 10, 1867	Nov. 1, 1914	Nov. 1, 1914	1,260
Lesage, R	" B/Smith	"	June 17, 1886	Dec. 1, 1912	Apr. 1, 1915	1,260
Filiatrault, A	" T/Smith	"	May 7, 1868	Mar. 5, 1921	Mar. 5, 1921	1,140
Clark, D	" Mason	Presbyterian	May 18, 1885	Dec. 21, 1921	Dec. 21, 1921	1,140
Cliche, L. P	" Farmer	Roman Catholic	Apr. 26, 1898	Nov. 21, 1921	Nov. 21, 1921	1,140
Steben, Geo	" Shoemaker	"	July 1, 1890	Feb. 27, 1922	Feb. 27, 1922	1,080
Pilotte, Geo	" Quarry	"	Nov. 1, 1880	Mar. 1, 1922	Mar. 1, 1922	1,080
Sibbald, W	" Mason	Presbyterian	July 2, 1882	Apr. 1, 1922	Apr. 1, 1922	1,080
Police—						
Fitzgibbon, J. D	Deputy Warden	Roman Catholic	May 23, 1860	June 25, 1887	June 7, 1919	2,180
Clermont, F	Chief Keeper	"	Oct. 15, 1862	July 19, 1889	Jan. 1, 1912	1,980
Pigeon, R	Chief Watchman	"	Apr. 29, 1886	Jan. 1, 1922	June 1, 1922	1,320
Grece, W	Guard	Presbyterian	Mar. 16, 1863	Oct. 1, 1897	Oct. 1, 1897	1,200
Charbonneau, A	"	Roman Catholic	July 1, 1862	July 1, 1898	July 1, 1898	1,200
Forest, G	"	"	Mar. 14, 1857	Apr. 7, 1898	Apr. 7, 1898	1,200
Trudeau, A	"	"	May 21, 1864	Dec. 1, 1899	Dec. 1, 1899	1,20
Filiatrault, N	"	"	July 5, 1868	May 4, 1901	May 4, 1901	1,200
Labreque, J. E	"	"	Feb. 17, 1875	Apr. 24, 1905	Apr. 24, 1905	1,200
Dufresne, A	"	"	Dec. 27, 1881	Aug. 1, 1906	Aug. 1, 1906	1,200
Barbeau, E	"	"	Nov. 29, 1871	Aug. 1, 1906	Aug. 1, 1906	1,200
Proulx, M	"	"	Mar. 9, 1879	Mar. 1, 1906	Mar. 1, 1906	1,200
Paré, A	"	"	Oct. 26, 1880	Oct. 9, 1909	Oct. 9, 1909	1,200
Jetté, U	"	"	June 18, 1881	Oct. 1, 1910	Oct. 1, 1910	1,200
Desrochers, J. B	"	"	May 22, 1885	July 1, 1912	July 1, 1912	1,200
Dupuis, D	"	"	Mar. 31, 1887	July 1, 1912	July 1, 1912	1,200
Gauthier, A	"	"	Sept. 29, 1879	Aug. 1, 1912	Aug. 1, 1912	1,200
Godin, H	"	"	Aug. 3, 1883	Aug. 1, 1912	Aug. 1, 1912	1,200
Bolduc, M	"	"	Mar. 28, 1888	Dec. 1, 1912	Dec. 1, 1912	1,200
Poirier, D	"	"	Aug. 27, 1885	Apr. 1, 1913	Apr. 1, 1913	1,200
Deschambault, W. A	"	"	Sept. 10, 1879	Aug. 1, 1915	Aug. 1, 1915	1,140
Lapointe, J. A	"	"	May 23, 1887	Jan. 1, 1917	Jan. 1, 1917	1,140
Lenden, A	"	"	Aug. 12, 1886	Jan. 1, 1918	Jan. 1, 1918	1,140
Leroux, A	"	"	Jan. 12, 1884	Sept. 1, 1919	Sept. 1, 1919	1,140
Lefebvre, A	"	"	Sept. 26, 1894	Oct. 18, 1919	Oct. 18, 1919	1,140
Cousineau, H	"	"	Jan. 6, 1897	Oct. 18, 1919	Oct. 18, 1919	1,140
Nadeau, J	"	"	July 6, 1898	Oct. 18, 1919	Oct. 18, 1919	1,140
Aubé, Z	"	"	Nov. 8, 1893	Oct. 18, 1919	Oct. 18, 1919	1,140
Miron, A	"	"	Oct. 16, 1896	Oct. 18, 1919	Oct. 18, 1919	1,140
Johnson, C	"	Church of England	Oct. 20, 1888	Oct. 18, 1919	Oct. 18, 1919	1,140
St. Aubin, E	"	Roman Catholic	Mar. 21, 1892	Oct. 28, 1919	Oct. 28, 1919	1,140
Heneault, R	"	"	Nov. 5, 1889	Oct. 18, 1919	Oct. 18, 1919	1,140
Byrne, J	"	"	Dec. 25, 1880	Apr. 13, 1920	Apr. 13, 1920	1,080
Hamel, Noé	"	"	Aug. 5, 1887	Apr. 27, 1920	Apr. 27, 1920	1,080
Delorme, A	"	"	Oct. 10, 1888	May 31, 1920	May 31, 1920	1,080
Girard, R	"	"	Oct. 8, 1899	June 15, 1920	June 15, 1920	1,080
Berubé, J	"	"	Jan. 26, 1894	June 15, 1920	June 15, 1920	1,080
Roy, D	"	"	July 4, 1881	June 30, 1920	June 30, 1920	1,080
Crandall, A. H	"	Church of England	Apr. 16, 1891	July 8, 1920	July 8, 1920	1,080
Cheeseman, A. W	"	" "	July 9, 1885	Oct. 2, 1920	Oct. 2, 1920	1,080
Kellett, G. H	"	" "	Aug. 21, 1892	Oct. 7, 1920	Oct. 7, 1920	1,080

LIST OF OFFICERS—*Continued*

AS ON MARCH 31, 1923—*Continued*

ST. VINCENT DE PAUL—*Concluded*

Name	Rank	Creed	Date of Birth	Date of first Permanent Appointment	Date of Present Appointment	Salary
Police—Con						
Timlin, C. E	Guard	Roman Catholic	Dec. 18, 1881	Jan. 18, 1921	Jan. 18, 1921	1,020
Daly, J. L	"	"	July 18, 1883	Mar. 24, 1921	Mar. 24, 1921	1,020
Montbriand, E	"	"	Mar. 20, 1883	Mar. 24, 1921	Mar. 24, 1921	1,020
Cormier, Albert	"	"	Oct. 26, 1896	Mar. 24, 1921	Mar. 24, 1921	1,020
Michaud, A	"	"	Dec. 14, 1894	May 11, 1921	May 11, 1921	1,020
Connolly, A	"	"	Dec. 14, 1897	July 6, 1921	July 6, 1921	1,020
Doran, S	"	Church of England	Nov. 30, 1884	Aug. 1, 1921	Aug. 1, 1921	1,020
Lamer, E	"	Roman Catholic	Mar. 2, 1889	Sept. 27, 1921	Sept, 27, 1921	1,020
White, J. J	"	Church of England	Jan. 1, 1894	Oct. 1, 1921	Oct. 1, 1921	1,020
Morrot, P	"	Roman Catholic	Oct. 25, 1879	Oct. 1, 1921	Oct. 1, 1921	1,020
Cardinal, J. A	"	"	July 27, 1882	Oct. 11, 1921	Oct. 11, 1921	1,020
Brière, A	"	"	Apr. 12, 1895	Nov. 30, 1921	Nov. 30, 1921	1,020
Leontieff, E	"	"	Oct. 10, 1880	Jan. 1, 1922	Jan. 1, 1922	1,020
Dubé, W	"	"	Oct. 17, 1885	Jan. 1, 1922	Jan. 1, 1922	1,020
Payne, P. F	"	Church of England	Oct. 15, 1891	Mar. 27, 1922	Mar. 27, 1922	960
Hugg, J. J	"	Roman Catholic	Jan. 12, 1886	Mar. 1, 1922	Mar. 1, 1922	960
Botting, J	"	Church of England	Nov. 29, 1888	May 1, 1922	May 1, 1922	960
Godin, L. P	"	Roman Catholic	June 18, 1898	May 1, 1922	May 1, 1922	960
Nadeau, A. E	"	"	Oct. 4, 1896	May 4, 1922	May 4, 1922	960
Allen, Ern	"	"	July 14, 1894	May 1, 1922	May 1, 1922	960
Blain, Edouard	"	"	Aug. 14, 1890	Jan. 1, 1923	Jan. 1, 1923	960
Cormier, Alexandre	"	"	Dec. 16, 1888	Jan. 1, 1923	Jan. 1, 1923	960
Dusablon, Victor	"	"	Aug. 28, 1888	Jan. 1, 1923	Jan. 1, 1923	960
Gibson, A. K	"	Presbyterian	May 9, 1898	Jan. 1, 1923	Jan. 1, 1923	960

DORCHESTER

General—						
(a) Meighen, W	Warden	Presbyterian	Oct. 24, 1878	June 1, 1914	Apr. 1, 1920	$2,940
Teed, J. F., M.D	Surgeon	Anglican	Feb. 23, 1863	Feb. 1, 1914	Feb. 1, 1914	2,880
Hudson, Rev. C. K	Chaplain	Methodist	Oct. 19, 1874	Feb. 1, 1922	Feb. 1, 1922	1,500
Dufour, Rev. P. P	"	Roman Catholic	June 29, 1864	Nov. 16, 1916	Nov. 16, 1916	1,500
Starratt, C. S	Accountant	Baptist	Nov. 10, 1858	Sept. 1, 1905	Mar. 1, 1911	2,280
Sears, Lorne	Cler. Asst	"	Nov. 13, 1886	June 8, 1914	Oct. 1, 1920	1,440
Goad, G. T	Storekeeper	Methodist	Sept. 9, 1892	Aug. 24, 1920	May 1, 1921	1,380
Allain, W. L	School Teacher and Librarian	Roman Catholic	Apr. 13, 1865	June 1, 1917	Apr. 1, 1921	1,500
Sargent, W	Warden's Clerk	Anglican	Aug. 15, 1897	Feb. 16, 1922	Feb. 16, 1922	1,260
Chapman, F. O	Steward	"	Aug. 25, 1879	Jan. 16, 1912	June 1, 1922	1,500
(b) Baylie, Charles	Engineer	Congregational	Jan. 19, 1869	Oct. 1, 1890	Sept. 1, 1918	2,180
LeBlanc, Edward	Asst. Engineer	Roman Catholic	Oct. 2, 1896	Jan. 27, 1919	Jan. 27, 1919	1,440
Haviland, E. H	"	Methodist	Jan. 9, 1869	Sept. 18, 1919	Sept. 18, 1919	1,440
Lane, Ernest	Fireman	"	Feb. 4, 1875	Sept. 1, 1917	Sept. 1, 1917	1,140
Papineau, G. B	Hospital Nurse	Roman Catholic	June 22, 1856	Jan. 1, 1886	June 1, 1898	1,320
Robinson, Edith	Matron	Anglican	Apr. 30, 1897	Dec. 20, 1921	Dec. 20, 1921	1,080
Allain, Adeline	Asst. Matron	Roman Catholic	Feb. 28, 1874	Feb. 3, 1921	Feb. 3, 1921	1,020
Industrial—						
Kane, J. J	Chief Trade Instructor	Roman Catholic	Oct. 16, 1866	Jan. 21, 1907	Aug. 1, 1910	1,800
Foran, W. J	Ind. Gd. Shoemaker	"	Nov. 15, 1870	Mar. 12, 1907	Mar. 12, 1907	1,320
McPherson, Andrew	" Farmer	Presbyterian	Aug. 10, 1861	May 4, 1910	May 4, 1910	1,320
McPherson, N. A	" Tailor	"	Aug. 18, 1880	May 19, 1913	May 19, 1913	1,320
Bishop, W. E	" Blacksmith	Methodist	Mar. 28, 1869	June 24, 1920	June 24, 1920	1,200
Emery, E. N	" Mason	Roman Catholic	Aug. 13, 1875	Apr. 1, 1916	Apr. 1, 1916	1,260
Porter, A	" Carpenter	Anglican	Jan. 4, 1890	Apr. 1, 1921	Apr. 1, 1921	1,140
Shannon, John	" Mason	Methodist	July 16, 1888	Sept. 19, 1922	Sept. 19, 1922	1,080
Police—						
Elsdon, C. S	Deputy Warden	Methodist	Sept. 4, 1869	July 23, 1895	Jan. 1, 1921	2,040
(c) Cummings, E. H	Chief Keeper	Presbyterian	June 28, 1880	Feb. 1, 1907	Apr. 1, 1921	1,740
McDougall, S	Chief Watchman	"	Oct. 18, 1871	July 23, 1895	Apr. 1, 1916	1,500
Drillio, Geo	Guard	"	Apr. 27, 1865	Jan. 1, 1898	Jan. 1, 1898	1,200
Getson, S. H	"	"	Feb. 3, 1873	Jan. 1, 1898	Jan. 1, 1898	1,200
McDonald, J. D	"	Roman Catholic	Aug. 12, 1878	Jan. 1, 1903	Jan. 1, 1903	1,200
Friel, Albert	"	"	Nov. 10, 1872	Aug. 14, 1906	Aug. 14, 1906	1,200
Bowes, F. C	"	Baptist	Sept. 4, 1880	July 1, 1907	July 1, 1907	1,200
Cumming, A. B	"	Presbyterian	Dec. 28, 1888	Nov. 1, 1908	Nov. 1, 1908	1,200
Lowerison, B. A	"	Anglican	Feb. 2, 1879	Apr. 1, 1909	Apr. 1, 1909	1,200
Ward, N. P	"	Baptist	Oct. 9, 1879	Jan. 1, 1911	Jan. 1, 1911	1,200
Bourque, A. P	"	Roman Catholic	July 14, 1877	July 1, 1912	Sept. 1, 1915	1,200
Sinclair, R. S	"	Presbyterian	Nov. 22, 1882	July 1, 1912	July 1, 1912	1,200
Cook, C. E	"	Baptist	Sept. 23, 1887	Oct. 1, 1914	Oct. 1, 1914	1,140
Thompson, H. R	"	"	Dec. 10, 1893	Nov. 1, 1914	Nov. 1, 1914	1,140

(a) Transferred from Alberta to Dorchester, Aug. 1, 1920.
(b) Transferred from Kingston to Dorchester, Sept. 24, 1920.
(c) Transferred from Alberta to Kingston, Sept. 1st, 1920. Transferred from Kingston to Dorchester April 1, 1921. Retired April 30, 1914 and re-appointed June 24, 1915.

LIST OF OFFICERS—*Continued*

AS ON MARCH 31, 1923—*Continued*

DORCHESTER—*Concluded*

Name	Rank	Creed	Date of Birth	Date of first Permanent Appointment	Date of Present Appointment	Salary
Police—Con						
DeVarenne, W. J.	Guard	Roman Catholic	Apr. 9, 1892	Dec. 1, 1914	Dec. 1, 1914	1,140
Mahan, C. J	"	"	Dec. 9, 1879	Dec. 1, 1914	Dec. 1, 1914	1,140
Babcock, C. P	"	Methodist	Nov. 4, 1876	Oct. 1, 1916	May 1, 1919	1,140
Crossman, P. C	"	Baptist	May 7, 1884	Apr. 1, 1919	Apr. 1, 1919	1,140
LeBlanc, F. L	"	Roman Catholic	Sept. 30, 1878	Apr. 1, 1919	Apr. 1, 1919	1,140
Cole, Edgar	"	Roman Catholic	Jan. 17, 1891	Nov. 1, 1919	Nov. 1, 1919	1,140
Whalen, R. J	"	"	June 6, 1885	Apr. 1, 1920	Apr. 1, 1920	1,080
Dobson, Frank L	"	Methodist	June 17, 1897	Mar. 11, 1920	Mar. 11, 1920	1,080
Pickles, W. S	"	"	Apr. 22, 1885	Apr. 1, 1920	Apr. 1, 1920	1,080
Kaye, P. A	"	Baptist	Oct. 5, 1895	Apr. 15, 1920	Apr. 15, 1920	1,020
Dobson, Frank A	"	Methodist	Sept. 11, 1893	July 11, 1921	July 11, 1921	1,020
Lyne, F. A	"	Anglican	May 8, 1887	July 29, 1921	July 29, 1921	1,020
Belliveau, Henry	"	Roman Catholic	Mar. 28, 1892	Aug. 1, 1921	Aug. 1, 1921	1,020
Cormier, David	"	"	Feb. 20, 1890	Aug. 20, 1921	Aug. 20, 1921	1,020
Oulton, T. E	"	Anglican	May 31, 1884	Sept. 2, 1921	Sept. 2, 1921	1,020
Sutherland, Pierce	"	Presbyterian	Sept. 12, 1882	Dec. 16, 1921	Dec. 16, 1921	1,020
Belliveau, M. F	"	Roman Catholic	Jan. 29, 1895	Dec. 16, 1921	Dec. 16, 1921	1,020
McKeon, William	"	Anglican	Apr. 29, 1881	May 1st, 1922	May 1st, 1922	960
Coyle, LeRoy	"	"	Dec. 14, 1897	July 1st, 1922	July 1st, 1922	960
Anderson, E. R	"	Presbyterian	Feb. 5, 1893	July 1st, 1922	July 1st, 1922	960

MANITOBA

General—						
Cooper, H. W	Warden	Church of England	Sept. 17, 1884	Aug. 1, 1920	Oct. 1, 1921	$2,820
McFadden, J. J., M.D	Surgeon	" "	Dec. 21, 1856	Oct. 1, 1917	Oct. 1, 1917	2,760
Stewart, Rev. S. W. L	Chaplain	Methodist	July 29, 1863	Dec. 1, 1907	Dec. 1, 1907	1,500
Heffron, Rev. W. J	"	Roman Catholic	Sept. 9, 1880	Sept. 27, 1922	Sept. 27, 1922	1,500
Macdougall, J. A	Accountant	Church of England	June 25, 1876	Jan. 12, 1914	July 1, 1921	1,920
Brown, J. C	Clerical Assistant	Presbyterian	Mar. 29, 1894	Mar. 10, 1922	Mar. 10, 1922	1,260
Woods, H	"	Church of England	Sept. 18, 1870	Oct. 20, 1905	Dec. 1, 1920	1,380
Wilson, J. S	School Teacher and Librarian	Presbyterian	May 11, 1884	May 2, 1921	May 2, 1921	1,380
Freeman, E	Steward	Church of England	May 12, 1856	Feb. 1, 1886	Mar. 1, 1903	1,740
Linklater, G	Assistant Steward	Presbyterian	Mar. 16, 1884	July 1, 1912	Oct. 1, 1921	1,200
Shead, W. H	Engineer	Church of England	June 4, 1869	Sept. 21, 1918	Sept. 21, 1918	2,100
Maclean, D	Assistant Engineer	Presbyterian	Dec. 12, 1886	Sept. 13, 1919	June 1, 1921	1,320
Browne, J. W	Hospital Nurse	"	Mar. 31, 1889	June 9, 1915	Nov. 1, 1919	1,260
Lusignan, H	Fireman	Roman Catholic	Dec. 16, 1878	June 23, 1921	June 23, 1921	1,020
Industrial—						
Bloomfield, S. F	Chief Trade Instructor	Church of England	May 24, 1880	Aug. 1, 1915	Feb. 1, 1917	1,800
(*a*) Robertson, J. P	Instructor Farmer	Presbyterian	July 16, 1872	Oct. 16, 1912	Oct. 16, 1912	1,320
Martin, C	" Tailor	Roman Catholic	May 23, 1876	July 5, 1913	July 5, 1913	1,320
Stanhope, R	" Mailbag	Church of England	May 12, 1878	Mar. 27, 1920	Oct. 1, 1921	1,080
Dawson, B. T	" Mason	Presbyterian	Mar. 24, 1878	July 1, 1922	July 1, 1922	1,080
Lyons, J	" Blacksmith	Roman Catholic	June 9, 1889	Jan. 3, 1923	Jan. 3, 1923	1,080
Pike, A. G	" Shoemaker	Church of England	Nov. 19, 1886	Mar. 1, 1923	Mar. 1, 1923	1,080
Police—						
Abbott, W. C	Deputy Warden	Presbyterian	May 14, 1873	May 1, 1903	Mar. 1, 1923	2,040
Powell, J. A	Chief Watchman	Church of England	Oct. 6, 1883	Aug. 1, 1912	Dec. 1, 1921	1,380
Downie, R	Guard	Presbyterian	Aug. 5, 1866	July 7, 1902	July 7, 1902	1,200
Fisher, A	"	Church of England	May 17, 1881	Feb. 1, 1912	Feb. 1, 1912	1,200
Meade, W. R	"	" "	June 13, 1880	Aug. 1, 1913	Aug. 1 1913	1,200
Nordin, E	"	Presbyterian	Dec. 27, 1895	Apr. 1, 1918	Apr. 1, 1918	1,140
Kirk, T. P	"	Roman Catholic	Apr. 7, 1881	Sept. 1, 1918	Sept. 1, 1918	1,140
Ellison, C	"	Presbyterian	June 22, 1892	Mar. 1, 1919	Mar. 1, 1919	1,140
Meaney, D. J	"	Roman Catholic	Mar. 11, 1885	July 1, 1919	July 1, 1919	1,140
Williams, J	"	Church of England	June 23, 1880	Mar. 11, 1920	Mar. 11, 1920	1,080
Parkinson, R	"	Wesleyan	Dec. 24, 1881	Mar. 19, 1920	Mar. 19, 1920	1,080
Anderson, H. G	"	Church of England	Apr. 22, 1894	July 2, 1920	July 2, 1920	1,080
Kynock, A. E	"	Presbyterian	Aug. 7, 1892	Sept. 11, 1920	Sept. 11, 1920	1,080
McDonald, H	"	"	Mar. 4, 1884	Oct. 21, 1920	Oct. 21, 1920	1,080
Erskine, J	"	"	May 1, 1886	Nov. 8, 1920	Nov. 8, 1920	1,080
(*b*) Aiken, G. O	"	Methodist	Apr. 5, 1873	Dec. 1, 1902	June 1, 1922	1,080
Campbell, A. H	"	Presbyterian	Apr. 28, 1890	Mar. 24, 1921	Mar. 24, 1921	1,020
Cooke, G. W	"	"	June 11, 1892	May 17, 1921	May 17, 1921	1,020
Robertson, W	"	"	Feb. 7, 1893	June 21, 1921	June 21, 1921	1,020
Hockley, C. G	"	Church of England	Feb. 7, 1890	Aug. 3, 1921	Aug. 3, 1921	1,020
Lowes, H. G	"	" "	Jan. 2, 1902	Aug. 9, 1921	Aug. 9, 1921	1,020
Newman, E	"	" "	June 18, 1887	Aug. 21, 1921	Aug. 21, 1921	1,020
Sutherland, J. N	"	" "	Oct. 19, 1895	June 6, 1922	June 6, 1922	960
Miller, A. W	"	" "	Apr. 1, 1894	June 6, 1922	June 6, 1922	960
Keaney, L	"	Roman Catholic	June 6, 1891	June 15, 1922	June 15, 1922	960
Geraghty, W. T	"	"	Sept. 11, 1895	Oct. 1, 1922	Oct. 1, 1922	960
Leitch, S. L	"	Presbyterian	Dec. 24, 1893	Nov. 1, 1922	Nov. 1, 1922	960

(*a*) Resigned effective March 31st, 1923.
(*b*) Transferred from Kingston Penitentiary effective June 1st, 1922.

LIST OF OFFICERS—*Continued*

AS ON MARCH 31, 1923—*Continued*

BRITISH COLUMBIA

Name	Rank	Creed	Date of Birth	Date of first Permanent Appointment	Date of Present Appointment	Salary
General—						
Patchell, W. A	Warden	Church of England	Aug. 12, 1862	Aug. 18, 1890	Oct. 1, 1921	2,820
Green, Thos. B., M.D	Surgeon (part time)	Presbyterian	Aug. 15, 1874	Mar. 8, 1921	Mar. 8, 1921	1,560
Vert, Rev. Albert E	Chaplain	"	Nov. 1, 1869	May 16, 1904	May 16, 1904	1,500
Hartman, Rev. J	"	Roman Catholic	Jan. 21, 1877	Sept. 1, 1922	Sept. 1, 1922	1,500
Harvey, Jas. W	Accountant	Church of England	Feb. 23, 1856	June 29, 1895	June 29, 1895	2,280
Marshall, Jesse	School Teacher and Librarian	"	Feb. 10, 1875	April 13, 1921	April 13, 1921	1,380
Emery, Frank B	Clerical Assistant	"	Mar. 26, 1869	June 15, 1914	June 15, 1914	1,440
Butler, Chas. E	Warden's Clerk	"	Oct. 23, 1890	June 8, 1921	June 8, 1921	1,320
Norman, Harry F	Hospital Nurse	"	April 30, 1874	June 1, 1906	Sept. 1, 1913	1,320
Robertson, Robt. J	Steward	Presbyterian	Jan. 28, 1865	Oct. 11, 1887	Sept. 1, 1913	1,740
Currie, W	Engineer	"	June 5, 1859	July 1, 1908	July 1, 1908	2,100
Mackenzie, D. C	Storekeeper	Methodist	Aug. 25, 1868	Mar. 4, 1904	June 1, 1921	1,380
Industrial—						
Imlah, John	Chief Trade Instructor	Presbyterian	July 20, 1860	May 15, 1900	Aug. 1, 1911	1,800
McLellan, Jas	Industrial Guard Carpenter	"	Nov. 14, 1866	Aug. 9, 1911	Aug. 9, 1911	1,320
Bresser, T	" Farmer	Roman Catholic	Aug. 6, 1886	Feb. 14, 1921	Feb. 14, 1921	1,140
Jamieson, Jas	" Shoemaker	Presbyterian	Sept. 25, 1878	Dec. 14, 1921	Dec. 14, 1921	1,140
Raeburn, G	" Tailor	Baptist	July 31, 1873	Sept. 18, 1922	Sept. 18, 1922	1,080
Police—						
Trollope, Geo. W	Deputy Warden	Church of England	Aug. 8, 1887	May 21, 1920	April 1, 1922	1,800
Divine, P	Chief Keeper	Roman Catholic	July 20, 1875	April 8, 1901	June 1, 1922	1,620
McKenzie, Hector	Chief Watchman	Presbyterian	Oct. 14, 1881	Jan. 12, 1920	Jan. 1, 1922	1,320
Douglas, Robt	Guard	Churchof England	Sept. 13, 1891	Dec. 1, 1913	Dec. 1, 1913	1,200
Mullins, B. A	"	"	Oct. 4, 1881	July 1, 1910	July 1, 1910	1,200
Craig, Robert	"	Presbyterian	Oct. 18, 1876	Oct. 1, 1911	Oct. 1, 1911	1,200
Pettigrew, John	"	"	Dec. 19, 1878	Nov. 1, 1912	Nov. 1, 1912	1,200
McCormack, Samuel	"	Church of England	July 14, 1890	Mar. 1, 1913	Mar. 1, 1913	1,200
North, A. T	"	Methodist	May 14, 1885	July 1, 1913	July 1, 1913	1,200
Wilson, Alexander	"	Presbyterian	May 30, 1893	May 1, 1914	May 1, 1914	1,200
Goss, John Lewis	"	Methodist	May 24, 1884	May 1, 1914	May 1, 1914	1,200
Davies, William	"	Church of England	Aug. 15, 1893	Nov. 1, 1914	Nov. 1, 1914	1,140
Jack, Richard	"	Presbyterian	Dec. 2, 1883	Dec. 1, 1914	Dec. 1, 1914	1,140
Bennett, Wm. A	"	Church of England	April 20, 1883	Feb. 15, 1919	Feb. 15, 1919	1,140
Wright, William	"	"	Feb. 25, 1885	Aug. 15, 1919	Aug. 15, 1919	1,140
Hyde, John	"	Roman Catholic	June 24, 1886	Aug. 15, 1919	Aug. 15, 1919	1,140
Clark, John	"	Presbyterian	June 24, 1887	Mar. 1, 1919	Mar. 1, 1919	1,140
House, Nathaniel	"	Churchof England	April 17, 1899	Sept. 13, 1920	Sept. 13, 1920	1,080
Gray, Charles H	"	Methodist	Dec. 8, 1878	April 1, 1921	April 1, 1921	1,020
Calbick, Kenneth	"	"	July 16, 1899	April 1, 1912	April 1, 1912	1,020
Pittendrigh, G. B	"	Roman Catholic	Aug. 29, 1894	April 1, 1921	April 1, 1921	1,020
Dixon, George	"	Presbyterian	Dec. 13, 1886	April 4, 1921	April 4, 1921	1,020
Macdonald, B. S	"	"	Feb. 16, 1884	Oct. 22, 1921	Oct. 22, 1921	1,020
Wiggins, F. H	"	Church of England	Mar. 22, 1889	May 20, 1921	May 20, 1921	1,020
Fraser, Samuel	"	Presbyterian	Sept. 18, 1892	May 30, 1921	May 30, 1921	1,020
Ainsley, T	"	Church of England	Sept. 22, 1887	Jan. 1, 1923	Jan. 1, 1923	960
Peart, W. S	"	"	July 19, 1898	Jan. 1, 1923	Jan. 1, 1923	960

ALBERTA

Cashman, J. J	Accountant	Roman Catholic	April 15, 1857	Aug. 1, 1906	Aug. 1, 1906	2,280

SASKATCHEWAN

General—							
	Macleod, W. J	Warden	Presbyterian	Aug. 7, 1868	Jan. 1, 1896	Mar. 25, 1914	3,420
	Chisholm, J. S., M.D.	Surgeon	"	Dec. 21, 1870	Sept. 1, 1913	Sept. 1, 1913	1,740
	Strong, Rev. J. I	Chaplain	Church of England	May 3, 1869	Oct. 3, 1921	Oct. 3, 1921	1,000
	Brodeur, Rev. J. H	"	Roman Catholic	Jan. 13, 1877	Jan. 1, 1923	Jan. 1, 1923	1,000
	Carrier, L. G	Accountant	"	Sept. 4, 1882	Sept. 1, 1916	Sept. 1, 1916	2,160
	Serjeant, F	Warden's Clerk	Church of England	Jan. 14, 1882	April 12, 1912	April 12, 1912	1,440
	McIntosh, A	School Teacher and Librarian	Presbyterian	June 27, 1881	July 1, 1921	July 1, 1921	1,380
	Chapman, P. D	Clerical Assistant	"	Jan. 17, 1886	Aug. 1, 1912	June 1, 1920	1,380
	Wall, C. F	"	Church of England	July 23, 1881	June 11, 1921	June 11, 1921	1,260
	Tabbutt, J	Steward	"	Oct. 21, 1879	July 1, 1919	July 1, 1919	1,680
(a)	Ewan, J	Assistant Steward	Presbyterian	Feb. 28, 1890	June 1, 1912	Mar. 10, 1920	1,200
	Malcolmson, D	Engineer	"	June 9, 1886	Aug. 1, 1913	Feb. 1, 1919	2,100
	Steinman, A. M	Assistant Engineer	Methodist	Mar. 20, 1889	June 1, 1916	Oct. 1, 1920	1,440
	Dussault, J. D	Fireman	Roman Catholic	Dec. 8, 1877	Mar. 16, 1920	Mar. 16, 1920	1,080

(a) Resigned Nov. 15, 1912. Re-appointed April 1, 1913.

LIST OF OFFICERS—*Concluded*

As on March 31, 1923—*Concluded*

SASKATCHEWAN—*Concluded*

Name	Rank	Creed	Date of Birth	Date of first Permanent Appointment	Date of Present Appointment	Salary
Industrial						
Allan, R. M	Chief Trade Instructor	Presbyterian	April 13, 1889	Aug. 1, 1913	Nov. 1, 1913	1,800
Cowie, G	Industrial Guard Tailor	"	June 14, 1872	June 28, 1911	June 28, 1911	1,320
Anderson, J. A	" Farmer	Baptist	Aug. 4, 1877	June 1, 1914	June 1, 1914	1,320
McCullough, W. A	" Shoemaker	Presbyterian	Sept. 20, 1874	July 17, 1919	July 17, 1919	1,260
Darby, C. S	" Mason	Church of England	June 22, 1884	Sept. 11, 1919	Sept. 11, 1919	1,260
Tresidder, G. H	" Blacksmith	Methodist	June 11, 1887	Sept. 1, 1919	Sept. 1, 1919	1,260
Phillips, W. J	" Brickmaker	Baptist	Oct. 28, 1864	Oct. 15, 1919	Oct. 15, 1919	1,260
Rogers, H. C	" Farmer	Methodist	Dec. 24, 1894	June 1, 1920	June 1, 1920	1,200
Wooton, T. J	" Mason	Church of England	April 18, 1884	June 1, 1920	June 1, 1920	1,200
Jackson, T	" Carpenter	"	Mar. 11, 1883	June 8, 1920	June 8, 1920	1,200
Police—						
Wyllie, R	Deputy Warden	Presbyterian	July 24, 1882	July 1, 1912	May 18, 1914	2,280
Doolan, P	Chief Keeper	Roman Catholic	April 15, 1881	June 1, 1911	May 18, 1914	1,980
O'Sullivan, D	Chief Watchman	"	Aug. 25, 1863	May 1, 1911	May 1, 1911	1,500
Hanson, A	Guard	Lutheran	April 7, 1881	Jan. 1, 1912	Jan. 1, 1912	1,200
Wilson, R. C. H	"	Presbyterian	May 22, 1886	Mar. 1, 1917	Mar. 1, 1917	1,140
Blanc, P	"	Roman Catholic	Feb. 3, 1888	April 1, 1918	April 1, 1918	1,140
Green, C. H	"	Church of England	Oct. 1, 1891	Feb. 1, 1919	Feb. 1, 1919	1,140
Temperton, J. R	"	Presbyterian	Sept. 17, 1889	May 1, 1919	May 1, 1919	1,140
Macleod, J	"	"	Dec. 23, 1885	May 6, 1919	May 6, 1919	1,140
Hangerud, M. B	"	Church of England	Aug. 15, 1894	Oct. 1, 1919	Oct. 1, 1919	1,140
White, H	"	"	Dec. 7, 1891	Oct. 1, 1919	Oct. 1, 1919	1,140
Watkinson, J. V	"	"	Aug. 26, 1886	Oct. 6, 1919	Oct. 6, 1919	1,140
Matthews, J	"	Presbyterian	June 8, 1880	Feb. 21, 1920	Feb. 21, 1920	1,080
Roberts, H	"	"	June 21, 1886	Feb. 21, 1920	Feb. 21, 1920	1,080
Tarr, J	"	Church of England	May 15, 1892	June 1, 1920	June 1, 1920	1,080
Moore, S	"	"	Nov. 19, 1891	June 28, 1920	June 28, 1920	1,080
Rowley, J. S	"	"	April 14, 1885	Jan. 20, 1921	Jan. 20, 1921	1,020
Cameron, J. D	"	Presbyterian	July 3, 1895	Jan. 21, 1921	Jan. 21, 1921	1,020
Akers, J. B	"	Church of England	Mar. 11, 1890	April 7, 1921	April 7, 1921	1,020
Gillingham, W. A	"	"	April 19, 1887	May 2, 1921	May 2, 1921	1,020
Utley, J. A	"	"	Feb. 4, 1897	May 6, 1921	May 6, 1921	1,020
Beal, F	"	"	Dec 16, 1897	May 19, 1921	May 19, 1921	1,020
Dollin, F. L	"	Methodist	July 23, 1881	June 11, 1921	June 11, 1921	1,020
Wilson, J. G	"	Presbyterian	Dec. 29, 1898	July 1, 1922	July 1, 1922	960
Rice, S	"	Church of England	Nov. 24, 1893	July 1, 1922	July 1, 1922	960
Tomlinson, H. E	"	"	Dec. 29, 1888	July 1, 1922	July 1, 1922	960
Duff, T	"	Presbyterian	Mar. 25, 1888	July 1, 1922	July 1, 1922	960
Grant, D	"	"	Jan. 25, 1888	July 1, 1922	July 1, 1922	960
Greene, C. H	"	Roman Catholic	Jan. 1, 1890	July 1, 1922	July 1, 1922	960
Humphrey, A. R	"	Presbyterian		July 1, 1922	July 1, 1922	960
Watts, A. J	"	Church of England	Nov. 23, 1884	July 1, 1922	July 1, 1922	960
Marsh, J. S	"	"	Apr. 19, 1900	July 1, 1922	July 1, 1922	960
Everatt, J. W	"	Presbyterian	Jan. 31, 1894	July 1, 1922	July 1, 1922	960

REPORT

OF THE

ROYAL CANADIAN MOUNTED POLICE

FOR THE

YEAR ENDED SEPTEMBER 30, 1923

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1924

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Royal Canadian Mounted Police for the year ended September 30, 1923.

Respectfully submitted,

ERNEST LAPOINTE,
Minister in control of the Royal Canadian Mounted Police.

January, 1924.

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ROYAL CANADIAN MOUNTED POLICE

HEADQUARTERS,
OTTAWA, Ont., 1923.

The Honourable the Minister
in Control of the Royal Canadian Mounted Police,
Ottawa.

SIR,—I have the honour to submit herewith the Annual Report of the Royal Canadian Mounted Police for the year ending September 30, 1923.

STRENGTH AND DISTRIBUTION OF THE FORCE

On that date the strength of the force was 58 officers, 1,090 non-commissioned officers and constables, and 543 horses. On the corresponding date in 1922 the strength was 64 officers, 1,163 non-commissioned officers and constables, and 656 horses. The last two years have seen a marked decrease in the strength of the force, a comparative statement being:—

Year	Officers	N.C.O. and Constables	Total Personnel	Horses
1920	73	1,598	1,671	942
1921	70	1,610	1,680	795
1922	64	1,163	1,227	656
1923	58	1,090	1,148	543

The decrease in the last year thus has been 6 officers and 73 non-commissioned officers and constables, or 79 in all.

The following shows the distribution in the several provinces and territories on September 30, 1923:—

	Commissioner	Asst. Commissioners	Superintendents	Inspectors	Surgeons	Asst. Vet'y Surgeon	Staff-Sergeants	Sergeants	Corporals	Constables	Special Constables	Total	Saddle horses	Team	Ponies	Total	Dogs
Headquarters Staff	1	1	2	2	1	....	9	11	11	20	14	72	....	....	....	....	....
Maritime Provinces	....	....	....	1	....	....	1	3	3	23	1	32	....	....	....	....	....
Quebec	....	....	....	1	....	....	1	6	7	16	....	31	....	....	....	....	8
Ontario	....	....	2	5	....	....	8	26	25	235	16	317	59	4	....	63	11
Manitoba	....	....	1	3	....	....	4	9	13	33	1	64	26	....	....	26	21
Saskatchewan	....	....	4	7	1	1	9	33	38	148	12	253	192	24	....	216	....
Alberta	....	....	2	8	....	....	7	18	27	73	17	152	108	24	1	133	11
British Columbia	....	1	....	7	....	....	7	16	26	74	12	143	91	4	....	95	....
Yukon territory	....	....	....	3	....	....	4	2	7	22	4	42	....	10	....	10	15
Northwest Territories	....	....	....	3	....	....	....	1	7	15	3	29	....	....	....	....	62
Baffin Island	....	....	....	....	....	....	1	....	1	2	....	4	....	....	....	....	....
Ellesmere Island	....	....	....	1	....	....	....	....	2	6	....	9	....	....	....	....	....
	1	2	11	41	2	1	51	125	167	667	80	1,148	476	66	1	543	128

On the same date the distribution into posts and detachments was as follows:—

	Divisional Posts	Detachments
Maritime Provinces	1	.....
Quebec	1	3
Ontario	2	12
Manitoba	1	14
Saskatchewan	2 (1 depot)	23
Alberta	2	23
British Columbia	1	20
Yukon Territory	1	12
Northwest Territories	.....	8
Baffin Island	.....	1
Ellesmere Island	.....	1
	11	117

The number of divisional posts has remained constant, and that of detachments has decreased during the year by seven, the corresponding figures last year having been 11 divisional posts and 124 detachments; the decreases have been four in British Columbia, two in Quebec, and one each in Manitoba and Saskatchewan; in Ontario there has been an increase of one detachment. An increase of detachments in the Northwest Territories is probable.

The alterations of strength of personnel in the several districts have been:—

—	1920	1921	1922	1923
Maritime Provinces	25	32	33	32
Quebec District	8	23	31	27
Eastern Ontario	395	442	325	343
Western Ontario	31	37	34	37
Manitoba	189	203	100	85
Southern Saskatchewan	354	277	225	214
Northern Saskatchewan	53	60	58	49
Southern Alberta	248	211	121	103
Northern Alberta	89	104	92	87
British Columbia	229	238	157	128
Yukon Territory	50	53	51	43

VOLUME OF WORK

While our numbers have decreased by 6·4 per cent, the volume of work increased this year by more than one-sixth; last year's increase over the preceding year was about one-ninth. The number of cases handled in the last four years has been:—

Year	Number	Increase	Per cent
1920	10,808	.....	.....
1921	12,595	1,787	16·5
1922	14,032	1,437	11·4
1923	16,463	2,431	17·3

The principal increase has been in cases arising from federal statutes. The classification of our work during the last four years is as follows:—

—	1920	1921	1922	1923
Federal statutes	2,068	3,675	5,235	7,447
Criminal Code	152	513	470	807
Provincial statutes and Park regulations	88	172	219	294
Investigations for other departments	8,500	8,235	8,108	7,915
	10,808	12,595	14,032	16,463

In four years the number of cases due to the enforcement of federal statutes has risen, roughly, from two thousand to seven thousand five hundred; while the two next items in the classification have increased more than fourfold. The steady, though rather slow, decline in investigations for other departments requires a word of explanation, without which the figures would convey a wrong impression. The decrease is more than accounted for by a sharp drop in naturalization inquiries, and the following analysis of this class of our duties shows that in other services to sister departments there has been a rapid and steady increase:—

Year	Naturalization Inquiries	Other Investigations	Total
1920	6,817	1,683	8,500
1921	5,533	2,702	8,235
1922	4,396	3,712	8,108
1923	3,858	4,057	7,915

It may be of interest to notice how the volume of work is distributed between Eastern and Western Canada. The figures for this year are:—

Year	Eastern Canada	Western Canada
Federal statutes	1,956	5,491
Criminal Code	400	407
Provincial statutes and Parks regulations	21	273
Investigations for other departments	2,887	5,028
	5,264	11,199

As the force for many years was confined in its operations to a part of Western Canada, and only of recent years has been allotted duties in the rest of the Dominion, it may be convenient to set forth the distribution of the total volume of work over a period of years.

Year	Eastern Canada	Per cent	Western Canada	Per cent
1920	1,676	15·5	9,132	84·5
1921	3,474	27·5	9,121	72·5
1922	5,475	39·0	8,557	61·0
1923	5,264	31·9	11,199	68·1

While on this subject it may be added that the proportion of naturalization inquiries prosecuted in Eastern Canada has tended to rise; four years ago more than four-fifths of these were in the West, and in the year under consideration more than half of them were carried out in Eastern Canada. The distribution by years has been:—

Year	Eastern Canada	Western Canada
1920	1,196	5,621
1921	1,914	3,619
1922	2,134	2,264
1923	2,117	1,741

As there has been so large an increase in the number of cases arising from the enforcement of the federal statutes, a similar comparison may be of interest:—

Year	Eastern Canada	Per cent	Western Canada	Per cent
1920	163	7·8	1,905	92·2
1921	409	11·1	3,266	88·9
1922	1,303	24·9	3,932	75·1
1923	1,956	26·2	5,491	73·8

The tables which follow set forth the details of this year's work, alike as to the classes of cases handled, the Acts under which action has been taken, and the departments to which services have been rendered.

SESSIONAL PAPER No. 21

RECAPITULATION of Cases Investigated and Convictions Made Under Federal Statutes and Criminal Code in all Provinces, and under Provincial Statutes and Dominion Parks Regulations, from October 1, 1922, to September 30, 1923.

—	Cases Investigated	Convictions	Dismissed or Withdrawn	Awaiting trial	Transferred to Department concerned	Still under Investigation	No prosecution entered	Total
Federal Statutes—								
British Columbia	1,786	629	105	4	144	53	851	1,786
Alberta	518	206	21	.....	40	23	228	518
Saskatchewan	2,015	677	61	24	262	82	909	2,105
Manitoba	1,140	255	41	5	27	31	781	1,140
Ontario	672	162	44	1	57	30	378	672
Quebec	1,045	278	70	66	46	67	518	1,045
Maritime Provinces	239	74	8	5	62	4	86	239
Yukon	9	7	2	.....	.....	.....	.....	9
Northwest Territories	23	19	1	.....	.....	1	2	23
	7,447	2,307	353	105	638	291	3,753	7,447
Criminal Code—								
British Columbia	94	36	14	4	33	2	5	94
Alberta	177	123	18	4	.....	6	26	177
Saskatchewan	43	27	9	.....	3	1	3	43
Manitoba	41	14	1	1	5	5	15	41
Ontario	266	59	22	3	39	14	129	266
Quebec	118	34	31	16	5	2	30	118
Maritime Provinces	16	9	7	.....	.....	.....	.....	16
Yukon	27	16	11	.....	.....	.....	.....	27
Northwest Territories	25	16	5	.....	.....	.....	4	25
	807	334	118	28	85	30	212	807
Provincial Statutes and Dominion Parks Regulations—								
British Columbia	27	10	.....	.....	16	.....	1	27
Alberta	220	188	22	.....	2	.....	8	220
Manitoba	3	1	.....	.....	2	.....	.....	3
Ontario	21	4	6	.....	6	.....	5	31
Yukon	23	19	3	.....	.....	.....	1	23
	294	222	31	.....	26	.....	15	294

RECAPITULATION of Investigations for other Departments other than Breaches of the Federal Statutes from October 1, 1922, to September 30, 1923.

British Columbia	1,357
Alberta	963
Saskatchewan	1,086
Manitoba	1,519
Ontario	1,954
Quebec	798
Maritime Provinces	135
Yukon	65
Northwest Territories	38
	7,915

RECAPITULATION of All Investigations Undertaken from October 1, 1922, to September 30, 1923.

Federal Statutes	7,447
Criminal Code	807
Provincial Statutes and Parks regulations	294
Investigations for other Departments	7,915
	16,463

RETURN Showing Total Number of Investigations made and Prosecutions Entered for all Provinces under the various Federal Statutes from October 1, 1922, to September 30, 1923.

—	Cases Investigated	Convictions	Dismissed or Withdrawn	Awaiting trial	Handed over to Department concerned	Still under Investigation	No prosecution entered	Total
Animals Contagious Disease Act	32	13	.....	.....	2	.....	17	32
Alien Labour Act	1	.....	.....	.....	.....	.....	1	1
Air Board Act	3	.....	.....	.....	1	.....	2	3
Bankruptcy Act	2	.....	1	.....	.....	.....	1	2
Chinese Immigration Act	11	.....	.....	.....	10	.....	1	11
Customs Act	428	47	9	14	168	28	162	428
Canada Temperance Act	1	1	.....	.....	.....	.....	.....	1
Dominion Forest Reserve and Parks Act	12	10	2	.....	.....	.....	.....	12
Dominion Lands Act	43	17	.....	.....	26	.....	.....	43
Explosives Act	444	23	1	.....	97	12	311	444
Fisheries Act	105	74	7	4	4	.....	16	105
Fugitive Offenders Act	2	.....	.....	.....	.....	.....	2	2
Immigration Act	174	53	2	.....	78	7	34	174
Indian Act	662	425	70	1	23	13	130	662
Inland Revenue Act	2,591	703	87	27	115	141	1,518	2,591
Income Tax Act	36	28	2	.....	4	.....	2	36
Live Stock Pedigree Act	2	1	.....	.....	1	.....	.....	2
Militia Act	66	3	.....	.....	22	9	32	66
Migratory Birds Act	45	16	7	.....	6	.....	16	45
Naturalization Act	9	.....	.....	.....	1	1	7	9
Naval Act	5	.....	.....	.....	1	3	1	5
Navigable Waters Protection Act	1	.....	.....	.....	.....	.....	1	1
Northwest Game Act	12	8	1	.....	.....	.....	3	12
Northwest Territories Act	4	4	.....	.....	.....	.....	.....	4
Opium and Narcotic Drug Act	2,183	506	132	56	49	64	1,376	2,183
Post Office Act	50	9	3	1	11	6	20	50
Penitentiaries Act	8	.....	2	.....	.....	2	4	8
Pension Act	1	.....	.....	.....	.....	.....	1	1
Railway Act	385	362	23	.....	.....	.....	.....	385
Radio Telegraph Act	7	.....	.....	.....	.....	.....	7	7
Secret Commissions Act	2	.....	2	.....	.....	.....	.....	2
Soldiers Settlement Board Act	6	1	1	.....	.....	1	3	6
Special War Revenue Act	1	.....	.....	.....	.....	.....	1	1
Seed Control Act	1	1	.....	.....	.....	.....	.....	1
Ticket of Leave Act	108	2	1	1	17	4	83	108
War Measures Act	3	.....	.....	1	2	.....	.....	3
Miscellaneous	1	.....	.....	.....	.....	.....	1	1
	7,447	2,307	353	105	638	291	3,753	7,447

SESSIONAL PAPER No. 21

RETURN Showing Total Number of Investigations made and Prosecutions Entered under the Criminal Code from October 1, 1922, to September 30, 1923.

	Cases entered	Convictions	Dismissed or withdrawn	Awaiting trial	Handed to department concerned	Still under investigation	No prosecution entered	Total
Offenses against the Person—								
Murder	12	5	3	1	1		2	12
Manslaughter	4	2	1	1				4
Assault, common	62	45	12	1	1	1	2	62
Assault, indecent	4	2	1				1	4
Assault causing bodily harm	2				2			2
Assault, aggravated	1		1					1
Abduction	2	1	1					2
Seduction	3				1		2	3
Concealment of birth	1				1			1
Intimidation	1				1			1
Carnal knowledge	2					1	1	2
Rape	1			1				1
Rape, attempted	1		1					1
Cruelty to children	1		1					1
Kidnapping	2					2		2
Accessory after the fact	1				1			1
Driving motor intoxicated	1	1						1
Offences against property—								
Theft	257	79	22	4	22	10	120	257
Theft from the person	1		1					1
Theft from H.M's mails	14	4	2			1	7	14
Robbery	2	2						2
Robbery with violence	1		1					1
Forgery	60	12	10	10	6		22	60
Burglary	17	8	2			4	3	17
Breaking and entering	26	17	2	1	4		2	26
False pretences	12	3	4		2		3	12
Fraud	18	2	9	1	1	2	3	18
Conspiracy to defraud	20		1		19			20
Defamatory libel	3		1	1		2	1	3
Mischief	7	4			1			7
Issuing worthless cheques	1		1					1
Cattle killing	2		2					2
Cruelty to animals	2	1					1	2
Beating board bill	3	2	1					3
Damage to property	1	1						1
In possession stolen property	6	2					4	6
Arson	6	1	5					6
Counterfeiting	3					1	2	3
Receiving	3	1		2				3
Shop-breaking	1						1	1
Trespassing	1	1						1
Unlawfully wearing military uniform	6	2			1		3	6
Offences against public order—								
Carrying concealed weapons	15	9			5		1	15
Alien in possession of fire-arms	29	9	7		5		8	29
Pointing fire-arms	1	1						1
Offences against religion and morals								
Creating disturbance	34	34						34
Vagrancy	34	29	4		1			34
Drunk and disorderly	17	17						17
Prostitution Indian woman	3	3						3
Indecent mail matter	6	1	1				4	6
Gross indecency	2	2						2
Common nuisance	1	1						1
Misleading Justice—								
Perjury	4		1	2			1	4
Conspiracy to bring false accusation	1		1					1

RETURN Showing Total Number of Investigations made and Prosecutions Entered under the Criminal Code from October 1, 1922, to September 30, 1923—*Concluded.*

	Cases entered	Convictions	Dismissed or withdrawn	Awaiting trial	Handed to department concerned	Still under investigation	No prosecution entered	Total
Corruption and disobedience—								
Impersonating police officer	1				1			1
Obstructing police officer	29	20	6	1			2	29
Resisting arrest	2	1	1					2
Assaulting police officer	4	4						4
Bribing police officer	2	1		1				2
Breaking jail	1	1			1			1
Escaping custody	22	4	2		5	6	5	22
Disobeying summons	1						1	1
Falsely Reprs. police officer	1		1					1
Miscellaneous	23		9	1	3		10	23
	807	334	118	28	85	30	212	807

RETURN Showing Total Number of Investigations made for Other Departments other than Breaches of Federal Statutes in all Provinces from October 1, 1922, to September 30, 1923.

	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec	Maritime Provinces	Yukon	North West Territories	Total
Department of Mines	481	4	9		8					502
Department of Immigration	20	38	121	89	2	1	1			272
Department of Indian Affairs	36	69	56	6	10	9				186
Post Office Department	16	10	5	1	5		3			40
Department Secretary of State	12	3	6	1	20	36	2			80
Department Secretary of State (Naturalization Branch)	171	327	361	882	1,595	460	62			3,858
Department Marine and Fisheries	429	100	159	6	1	1	5			701
Department Soldiers' Civil Re-establishment	5	6	1	1	2	2	1			18
Department National Defence	5	22	30	11	43	2	15			128
Department of Public Works	1				8		1			10
Department of Justice	19	19	4	3	17	5	3			70
Department of Customs and Excise	5		4	226	6	2	2			245
Department of the Interior	2	167	148	156	5	3	1		10	492
Department of Agriculture	6		2		2	2	1			13
Department of External Affairs		1			5	4	1			11
Department of Finance		2	2				1			5
Soldiers Settlement Board		2	3							5
Department of Health					38	179				217
Department of Railways and Canals					1	2				3
Governor General's Office					1					1
Auditor General's Office					1					1
Royal Mint					1					1
Inquiries for missing persons	70	134	143	64	111	56	12	63	3	656
Destitutes									2	2
Accidental deaths		13	2						19	34
Suppression of commercialized vice							18			18
Inquiries for other police forces	75	16	19	69	25	24	3			231
Miscellaneous investigations	4	30	11	4	47	10	3	2	4	115
	1,357	963	1,086	1,519	1,954	798	135	65	38	7,915

SESSIONAL PAPER No. 21

RETURN of Cases under the Opium and Narcotic Drug Act for the Year Ending October 1, 1922, to September 30, 1923.

Number arrested	Prosecutions entered	Number convicted	Number sent to prison	Total terms imposed	Number fines	Amount fines paid	Quantity of Drugs seized		Quantity and Description of Apparatus seized	
							Name of Drug	Quantity		
				Yrs. Mos. D.				lb. oz. gr.		
680	691	517	211	142 5 21	289	$29,205 00	Opium....	96 15 143	Opium needles	134
									" pipes	162
							Morphine.	7,174 344	" lamps	185
							Heroin....	1,873 400	" spoons	5
							Cocaine...	1,233 362	" scales	27
									" trays	2
							Total...	10,282 231	" scrapers	67
									" scissors	21
							*Yenshee.	7 138	" pipe bowls	136
									" pipe stems	125
							*Indian hemp...	2 14	" cans	174
									" cooking pots	18
									" bowl holders	99
									" ivory ferrules	198
									Hypodermic needles	43
									Eye droppers	6
									Miscellaneous apparatus	21
										1,423

*Yenshee—Opium seconds or burnt opium.
†Indian hemp—Hasheesh or Cannabis Indica.

CLASSES OF WORK DONE

A word of explanation and comment may be advisable upon the classes into which the foregoing statistics are grouped.

1. The enforcement of federal statutes, in which the growth has been so noticeably rapid, is the regular work of the force; it consists of the enforcement of the penalty clauses of the various federal statutes in which federal departments are directly interested. Particulars of these are given in Appendix B; it may be of interest to show the variations in the past three years in the work created by certain Acts:—

—	1921	1922	1923
Inland Revenue Act	793	1,606	2,591
Opium and Narcotic Drug Act	1,055	1,694	2,183
Indian Act	478	622	662
Explosives Act	20	107	444
Immigration Act	301	219	174
Customs Act	238	84	428
Railway Act	75	166	385

2. By investigations for other departments are meant the special inquiries and investigations concerning departmental matters, made at the request of Federal Government departments; and also special inquiries made to assist Provincial Police departments. As in the foregoing category, particulars are given in the appendix, but comparative figures may be given for a few types:—

—	1921	1922	1923
Department of Mines	47	153	502
Department of Immigration	385	567	272
Department of Interior	44	125	492
Inquiries for missing persons	945	1,002	656
Inquiries for other police forces	156	223	231

3. As regards the Criminal Code, the force is responsible for the maintenance of law and order in the Northwest Territories, Yukon, National parks, and Indian reserves. It also enforces the provisions of the Criminal Code in all cases where departments of the Federal Government are concerned, such as theft of Government property, frauds in connection with the post office, currency, etc. In other cases the provincial administrations are responsible.

4. As regards provincial statutes and parks regulations, by special arrangement between the Federal Government and the Provincial Governments of Alberta and British Columbia, both the federal and provincial laws are enforced by this force in the federal parks in these two provinces.

PATROLS, GUARDS, ETC.

These statistical details by no means give a full account of the activities of the force. A familiar instance is the protection of buildings belonging to the Dominion Government, a large proportion of the work done by "A" Division falling under this heading, and not lending itself either to extended description or to statistical expression. Another example is to be found in the posting of guards on the offices of the Receiver General at Toronto, Winnipeg, Regina, Calgary, and Victoria. This duty, which has been imposed upon us because of the lamentable increase of robberies with violence, absorbs the services of a considerable number of men, guards being maintained by night as well as by day, and furnishes no entries for the tables which have been cited, the return to the public being solely in the matter of security. It is an outgrowth of the furnishing of guards at certain times to the Taxation Branch of the Department of Finance. The same remarks can be applied to the practice, begun this year, of furnishing escorts to officers of the Customs Department when transferring large sums in cash. Yet another example of duties which impose labour without overt results is the detachment which it has been necessary to place in the Grand River Indian Reserve; the disposition on the part of an element in that community to repudiate the authority of the Government has rendered it necessary to support the officials of the Department of Indian Affairs.

And once more, in furnishing escorts for the trains carrying the annual harvesters' excursions to Western Canada we employ a number of men in ensuring orderly behaviour rather than entries in our returns.

In this connection the gradual strengthening of our Arctic detachments is to be noticed. In the past year new detachments have been established at Cumberland Gulf in Baffin island and, as a temporary measure, at Baillie Island on the coast of the Arctic ocean; and I hope in the coming year to transfer the Baillie Island detachment to Cambridge Bay, in the south-eastern corner of Victoria land, and to establish three additional detachments in the Northwest Territories at Fort Rae, Fort Providence, and Fort Hope. This will mean additional personnel in regions where population is scanty and long and arduous journeys will be necessary, the results to be expected being orderly behaviour and strict compliance with regulations rather than abundance of "cases."

In certain other portions of the country long patrols constitute an important feature of our work. Often, especially in the more newly settled agricultural regions, cases will accumulate until a member of the force is sent out, following a route which will enable him to discharge a number of specific errands. In other districts the real purpose is to show the uniform periodically, and to ascertain the conditions which prevail; it is a common experience to have such a patrol uncover much that otherwise would not come to light, ranging from infractions of the law to instances of destitution and distress. The mileage incurred in journeys of this sort is very heavy.

ASSISTANCE TO PROVINCES

Particulars were given in the last annual report of the aid given to the Government of Nova Scotia in connection with the proposal to raise a provincial constabulary; it will be remembered that the project was abandoned. In July, 1923, an emergency caused the provincial authorities again to raise a constabulary, and the Honourable the Prime Minister of Nova Scotia asked the Government of Canada that the officer commanding the Royal Canadian Mounted Police in the Maritime Provinces, Inspector C. D. LaNauze, be permitted to assist in selecting suitable men for the proposed force. This was granted.

Miscellaneous assistance was given to other provinces, the most important examples having to do with the control of the fur trade in the northern parts of Manitoba and Alberta; members of the force issued licenses and collected fees in connection therewith, and in Alberta act as game guardians. At Fitzgerald and Chipewyan we have assisted the game commissioner of Alberta to collect a new fur tax which has been imposed.

At Chipewyan, at the request of the Deputy Registrar General of Alberta, the N.C.O. in charge of the detachment has assumed the duties of issuer of marriage licenses and registrar of vital statistics.

From time to time, more especially in the wilder parts of the western provinces, our men handle emergency cases in the absence of the provincial police forces, handing them over to the latter at the first opportunity.

In Manitoba a case of co-operation occurred which is thus reported by the Officer Commanding in that district:—

> "The perpetration of a number of daring bank robberies in the late fall of 1922 along the southern boundary of Manitoba resulted in the provincial police being obliged to undertake special preventive measures to combat same. Our help was specially requested, and some 20 of our men were engaged continuously in patrolling the international boundary line in Manitoba, from October 1 to November 15. These extensive protective measures had the effect of curbing what otherwise might have resulted in a serious situation."

ASSISTANCE TO OTHER DEPARTMENTS

Some account already has been given of the statistical aspect of this important portion of our work; briefly, aside from naturalization investigations, the number of cases which fall under this heading has increased during the year by about 350, and in the last four years has sprung up from fewer than 1,700 to more than 4,000, increasing by nearly 150 per cent. To a great extent we may be described as a handmaid to other departments; with many of them we are continually co-operating, and during the past year—apart from the work of "A" Division in guarding buildings—we rendered services of one sort or another to more than twenty of them, there being very few which did not invoke our aid in some matter or other. Much of this is routine, to be chronicled in bulk in our statistical tables, but some of the duties performed merit brief notice.

Upon this topic I may repeat my remark of last year:—

> "Speaking generally, if the force did not undertake these duties they either would remain undone, to the detriment of the public service, or the various departments would have to make their own arrangements to perform them; in many cases this would mean the employment of private detectives. The employment of these has ceased; it is expensive, the charges being high, and in addition there is the drawback that the Government is in the position of employing persons engaged on delicate duties, without having satisfactory control over them. One result of the reorganization of 1920 has been the discontinuance of the services of these agencies."

DEPARTMENT OF HEALTH

A feature of our work of grave importance to the well-being of the community is our co-operation with the Department of Health in contending against the scourge of narcotic drugs. Concerning this it may be said that the campaign has continued during the year and that on the whole the situation probably has improved. In the inland cities the traffic seems to have received a check; in Winnipeg, for example, the four principal traders in drugs were arrested, and since then conditions have been quiet; and in other inland cities, while vigilance has been necessary, and has been exercised, the activity of the traffic seems to have been lessened. Interest now centres in the seaports, and more especially in Montreal and Vancouver; we watched Halifax and St. John carefully in the winter of 1922-23 and, while a few arrests were made, saw nothing to indicate extensive importation. In Vancouver we were active during the period under review, and obtained three highly important convictions, one of those charged by us receiving a sentence of five years' imprisonment. In Montreal also we have scored a number of successes in checking importations. Our general policy has changed somewhat, our attention now being directed mainly to the more important scoundrels who import the drugs and organize and direct the traffic, relying upon the municipal police forces to deal with the agents who perform the actual work of distribution. The narcotic squad of the Montreal police force, it may be added, has been active in this work, and has secured a number of convictions.

These drugs still enter the country from overseas; there is reason to suspect that the vessels of certain lines convey considerable quantities.

A branch of the work which sometimes attracts attention is the taking of measures against medical men or druggists suspected of lending themselves to this dreadful trade. Nothing in the nature of a dead set has been made. In the course of our duties we watch, under the direction of the Department of Health, the quantities of narcotic drugs procured by members of the profession and by druggists, and when excessive quantities are observed to be handled by any one person we notify that department; if it requests us to pursue the matter further, those concerned are placed under surveillance, and if addicts are seen to resort to them, measures are taken to ascertain whether they sell under unlawful conditions.

Since the closing of the period covered by this report charges have been laid in Vancouver against two members of this force and two agents who were employed in combatting the drug evil, and these are being investigated by a Royal Commission. It is to be borne in mind that the drug traffic, in addition to being carried out in extraordinarily low strata of society, is conducted with great cunning, and that, to obtain information and establish the complicity of those practising it, our agents must convince all but those persons who form and execute our plans that they are members of the underworld and of the gangs which infest it.

NATURALIZATION INQUIRIES

Mention has been made already of the great amount of work entailed by the reports we furnish to the Secretary of State upon applications for naturalization. A noteworthy feature of this phase of our work has been the increase in the proportion of inquiries in Eastern Canada; for three years the number there has remained fairly constant in the vicinity of two thousand, while in the West there has been a rapid decline. Last year the inquiries in the East outnumbered those in the West. All investigations have been conducted carefully, and each alien making application has been identified and scrutinized.

CUSTOMS AND EXCISE

A great volume of work is entailed by our relations with the Department of Customs and Excise. Much of this arises out of the illicit manufacture of liquor, and our men have been active in the seizure of stills. The work of suppressing smuggling also is increasing. An account was given in last year's report of the arrangements which were made whereby a number of members of this force were appointed customs and excise enforcement officers, without salary, for the purpose of co-operating with the Customs Preventive Service in dealing with smuggling; and whereby some eighty of our men were appointed inland revenue officers without salary. This co-operation has been continued.

Investigation of smuggling is a rather new activity for this force, the three streams of illicit trade with which we have had more particularly to cope being the smuggling of liquor on the Atlantic coast, of drugs, and of silk across the international boundary. The work is arduous, and calls for careful arrangements, and occasionally for some hardihood. The most picturesque incident in this branch of our work was the seizure on the night of July 3 of the schooner *Veda M. McKown* while engaged in the illegal importation of liquor. Detective Sergeant J. P. Blakeney, in consequence of information received, repaired secretly from Halifax to La Have, accompanied by Corporal W. A. Caldwell and Constable F. P. Fahie, and by a clever manœuvre succeeded in impersonating the purchasers of the cargo. Our three men, on a very dark night, proceeded in a motor-boat to the place where the schooner was lying and quieted the suspicions of the crew. Sergeant Blakeney boarded the vessel and arranged to purchase certain quantities of whiskey, rum and gin; after a good deal of haggling as to the method of payment, the crew of the ship began to deliver the contraband liquor. Sergeant Blakeney's report says:—

"The crew then opened the hatch and began to pass up the rum, which was contained in ten-gallon kegs.

"The first keg that was passed up, the men on deck passed it over the rail to Corporal Caldwell and Constable Fahie, who were on the motor-boat ready to receive it; the captain made no objection to this and the second keg was passed over in the same way; the captain then shouted to me to come down in the cabin and pay him the money. I said: 'All right, captain, but we are members of the Royal Canadian Mounted Police and I am also a customs and excise officer, and I am going to seize your ship and cargo and detain you and your crew on board.'

"As had been previously arranged, when I said this, Corporal Caldwell and Constable Fahie immediately leaped on board and took up positions which I had directed them to take. . . .

"For a few moments not a word was spoken. . . . I expected there might be some trouble. I then showed the captain my authority and warned him and the crew that any disturbance or attempt at violence on their part would be severely dealt with as we were prepared to deal with such matters, and advised the captain that it was greatly to their own interests not to start any trouble."

The crew of the schooner numbered eight, and were "in apparently an ugly mood" for about three hours after the seizure. The cargo consisted of 1,700 gallons of rum, 190 cases of Scotch whisky and 35 cases of gin. An American seems to have been the principal behind the captain of the vessel.

Less exciting in its incidents, but gratifying, was a seizure effected by Detective Sergeant F. Lucas at St. John, N.B., of liquors smuggled by individual members of the crew of the ss. *Bally Gally Head*. It being suspected that the chief steward of this ship was bringing liquor into the port, Sergeant Lucas took measures to confirm this suspicion and to arrange to buy a quantity of contraband gin and whisky. On January 23, posing as a purchaser, Sergeant Lucas visited the ship, and by bargaining as to price, etc., succeeded in seeing the liquor in its hiding places. In his report he says:—

"He very reluctantly accompanied me to where he had the liquor concealed in five different places; one was in the chief engineer's room, where three men were packing it into bags."

Realizing that he could not effect the seizure singlehanded, Sergeant Lucas made an appointment for that evening, and arranged to have sufficient force within call. In the evening he met the steward:—

"I told him to hurry up and let me count the liquor and get the deal over. He took me to the different places where I saw the liquor and counted it, and then returned to the steward's room to . . . finish the deal and pay up. As is usual in such cases, —— introduced the bottle for drinks and left for two glasses. This gave me the opportunity of calling assistance, which I did, and returned to the steward's room; the chief steward came in and I explained to him who I was, and my business, to keep quiet, called Constable Arthurs, and left —— in his charge.

"I then placed a customs officer at each of the rooms where I knew liquor was concealed, and made a thorough search of other rooms and located another case which was of another brand than that I had bargained for, in an unoccupied room."

The seizure amounted to 25 cases of spirits. Five members of the crew were observed to be directly concerned in the transaction.

Near Vancouver on one occasion a non-commissioned officer and constable of the force boarded a rum-running launch and arrested the skipper, who was flourishing a revolver.

Incidents such as these are the exception; this type of duty calls for much work, often of a laborious nature. That the work is increasing is shown by the figures already quoted, the number of cases having been more than four hundred, as against about half that figure in 1921 and fewer than one hundred in 1922.

As regards inland revenue work, this has principally to do with the seizure of illicit stills, and its interest lies rather in its volume than in any particular incidents. As the detailed figures show, this has grown rapidly, from fewer than 800 cases in 1921 to more than 1,600 in 1922 and nearly 2,600 in 1923. The convictions have risen from 355 in 1921 to 598 in 1922 and 703 in the twelve months just closed.

THE HARVESTERS' EXCURSION

As in former years, escorts were provided for the trains which carried the harvesters to the west in August. This year the duty was wholly administered by "N" Division, which is stationed at Ottawa, some men being borrowed from other divisions. The number of trains was 27 on the Canadian National railways and 27 on the Canadian Pacific, the number of men transported being about 25,000. Each train was accompanied by two members of the force, the total number employed on this duty being 58. The presence of our men was beneficial, as beyond some boisterousness there was no misbehaviour by the excursionists. One lunatic was placed under restraint, and some weapons were seized. Most of our reports describe the harvesters as quiet and orderly. One of them contains the following passage:—

"A few minor incidents occurred between Hearst and Winnipeg, but altogether the harvesters conducted themselves in a law-abiding manner. The excessive prices charged for eatables along the line tended to create ill-feeling between the harvesters and keepers of restaurant stores, etc.

"I noticed at the various stopping places where eatables could be obtained that the prices charged were of a fabulous nature. I give the following as an example:—

One sandwich and one cup of tea.. .. .. 25c.
One pie.. .. .. 90c.
Quart of milk.. .. .. 25c.

"This sort of thing is the main cause of a lot of discontent among the harvesters."

SUPERVISION OF PARI-MUTUEL BETTING ON RACE TRACKS

On behalf of the Department of Agriculture the force once more supervised pari-mutuel betting at races during the summer of 1923. In all 47 race

meetings were held at which pari-mutuel machines were used, these being distributed as follows:—Quebec, 14 meetings; Ontario, 15 meetings; Manitoba, 3 meetings; Saskatchewan, 2 meetings; Alberta, 3 meetings; British Columbia, 6 meetings.

Four members of the force were employed at each of the race meetings in the East and in Winnipeg and British Columbia; at the race meetings at the fairs at Regina, Saskatoon, Edmonton, and Calgary, the number employed depended upon the number of mutuel machines in use. A total of 51 non-commissioned officers and men were employed at various times.

SPECIAL GUARDS

An additional duty is the furnishing of permanent guards for the offices of the Receiver General at Victoria, Calgary, Regina, Winnipeg, and Toronto. Keeping men on duty continuously at these offices accounts for 16 men, and in addition we have met occasional requests for additional assistance or protection.

During April, May, and June, when heavy payments were made on account of income tax at offices of the Taxation Branch of the Department of Finance, the usual armed guards were furnished. In all seventeen offices were protected, the numbers employed being 22 non-commissioned officers and 66 constables.

The prevalence of hold-ups by armed robbers caused precautions to be taken in another field. At certain places where customs officers from time to time are in possession of considerable sums of money, special measures of protection are taken by us.

In Vancouver a guard is supplied to assist the immigration authorities.

Reference was made in the last annual report to the arrangement between this force and the naval authorities whereby we protect the naval storehouses and dockyards at Halifax and Esquimault. This arrangement has been continued during the year.

COUNTERFEITING

Vigilance against counterfeiting always is necessary, and a proportion of our work always has to deal with this type of crime. The most interesting incidents experienced during the twelve months had to do with the appearance of false silver coins in Montreal. Two cases resulted, one being that of the making of spurious coins by crude methods, and the other involving much greater skill. Convictions were secured.

In connection with one of these cases, that of Rex vs. Coté, which was concluded after the completion of the period under review, a gratifying compliment was paid to this force. Two non-commissioned officers of the force, Staff-Sergeant E. C. P. Salt and Sergeant F. W. Zaneth, were concerned in the case. The first-named of these gave evidence. Sergeant Zaneth then gave evidence. The passage which ensued is thus reported in the *Montreal Gazette* of November 6, 1923:—

"Sergeant Zaneth corroborated the previous witness. When cross-examined by Mr. Monette, Mr. Justice Wilson declared: 'I do not know whether it is absolutely necessary to cross-examine the witness, if he corroborates the previous evidence *en bloc*. My experience of the Royal Canadian Mounted Police is that they have always given evidence in the most loyal and upright manner.'

"'Certainly, your Lordship,' replied counsel for the defence, 'I am of that opinion myself and gladly abandon the cross-examination.'"

DEPARTMENT OF INDIAN AFFAIRS

The most interesting incident in connection with the Indian population of the country had to do with the Six Nations Reserve on the Grand river in

Ontario. An element in the reserve took a view of their position incompatible with the administration of the laws of the Dominion, and the dispute between these people and the Department of Indian Affairs issued in something very like a general defiance of authority. Warrants for the arrest of Indians on sundry offences, dating as far back at 1918, had not been executed; officers of the law had been expelled from the reserve; no constable had set foot upon it for six months; a certain amount of illicit manufacture of liquor was in progress, and assaults and other offences against the law had been too frequent. Consequently Superintendent A. W. Duffus, the Officer Commanding the Royal Canadian Mounted Police in Western Ontario, on December 7, 1922, visited the reserve with a sufficient number of police and, in concert with inland revenue officers and county constables, searched about nineteen houses where it was believed illicit stills were in operation. Moving in four parties, our men made some seizures, effected a number of arrests, and ascertained the whereabouts of several persons against whom warrants were outstanding. In one case it was found that the man wanted had been dead for six months, the warrant having been issued in October, 1920. One man offered resistance and escaped for the time being, though he was arrested soon afterwards. This assertion of authority was followed up by the establishment of a detachment at Ohsweken, the administrative centre of the reserve, with excellent results, as order is re-established and the law is duly obeyed.

Other reserves in Eastern Canada required visits, and our men from time to time have had to effect arrests and in other respects to enforce the provisions of the Indian Act, and of the ordinary laws of the country.

In British Columbia we have discharged numerous duties in co-operation with the Department of Indian Affairs. In consequence of representations by it we established a detachment at Vernon, north of Penticton, on Okanagan lake; there are many Indian reserves in this vicinity, and our detachment has been kept busy. There also has been much work in the northern part of the province. The decrease in our strength made it impossible for me to comply with the request of the department to re-establish the detachment on the Queen Charlotte islands during the summer months, occasional patrols being as much as was possible with the numbers at my disposal.

Our relations with the Indians elsewhere in Canada call for no particular remark. The general volume of work somewhat increased, there having been 662 cases, as against 622 last year. As usual, where advisable we furnished escorts for parties paying treaty money.

POST OFFICE

Thefts from post offices form almost a special branch of crime, and occupy a great deal of our time, the cases often proving very difficult and involving long and patient investigation. A case which was cleared up this summer had been pending for over two years. On April 30, 1921, a mail bag was stolen from the mail truck at Port Arthur and the sum of $11,400 was abstracted. Suspicion ultimately pointed to a certain person, and after months of minute investigation so close a web of circumstantial evidence was woven about him that he confessed and pleaded guilty when arraigned.

Another old case which was cleared up was the theft of a mail bag from a trolley car between Amherstburg and Windsor on September 9, 1921. One of the parties to the case was apprehended and pleaded guilty of receiving the stolen cash; a man whom he implicated as an accomplice was arrested in the United States, but acquitted.

On the night of April 5-6, 1923, a package containing $100,000 in Victory bonds was stolen from a truck carrying registered mail from the Toronto post

office to the Union station. The case was not placed in our hands until April 11, and at that time there seemed little to go upon, but by May 11 arrests had been made and nearly all of the stolen bonds had been recovered. The driver of the truck was found guilty of receiving stolen property, and the judge imposed the maximum sentence possible for this class of offence. At the conclusion of the trial the judge complimented our detectives on their work. It should be added that this case imposed very heavy work on our staff in Toronto.

A piece of quick work was done by Detective Sergeant L. McLauchlan in clearing up the theft of a registered package containing $5,300 from the Cochrane post office. The offence took place on June 30; Sergeant McLauchlan took up the case on July 3, and two days later, as a result of his efforts a postal clerk had confessed his guilt. On the next day, July 6, the culprit was sentenced. In this case $5,283 of the sum stolen was recovered.

DEPARTMENT OF THE INTERIOR

We have continued to assist the Department of the Interior in the matter of the dues for Crown timber and for hay grown on Crown lands. Our vigilance has been increased in the year, the department having desired to tighten the control of these natural resources. This fact, and the circumstance that an unusually large number of vagrants have had to be apprehended in the Dominon parks, account for the greater part of the large increase in the number of cases handled for this department.

DEPARTMENT OF IMMIGRATION AND COLONIZATION

We work in close relation with the immigration authorities, a number of members of the force acting as special immigration officers. In addition, special inquiries are made, and a certain amount of detective work is done. Many undesirables are refused admission as a result of our activities, and we have obtained the evidence upon which a number of deportations have been made. In one case we arrested a man who had entered the country surreptitiously after being refused admission, and it turned out that he was an escaped murderer, for whom the American authorities were searching. Guards continue to be furnished at certain ocean ports.

THE MIGRATORY BIRDS ACT

We continued to enforce the Migratory Birds Act, which was passed in accordance with international agreements. A good deal of our work has to do with conditions in the Arctic regions, our detachments there doing much to preserve the breeding stations from undue interference. The patrol of the north shore of the St. Lawrence river was carried out again this year by a constable detached for this purpose from "N" Division at Ottawa.

THE DEPARTMENT OF MARINE AND FISHERIES

Our work in connection with the prevention of illegal fishing increased during the year. A number of constables were placed at the disposal of the Chief Inspector, Eastern Fisheries Division, and they did much arduous patrolling, more especially in Prince Edward Island and along the north shore of New Brunswick, during July, August, and September. This work had particularly to do with the catching of lobsters. A number of convictions were secured, many seizures were effected, and what is more important, illegal depletion of the fisheries was substantially reduced. On one occasion several shots were fired at a boat in which one of our men and a fishery officer were patrolling. Later in the year protection was afforded to certain salmon rivers of Nova Scotia.

STERLING EXCHANGE

The conspiracy to defraud the Government through the manipulation of sterling exchange has caused us an immense amount of work. In addition to the labour of investigating certain cases in which action was taken, it was necessary to ascertain particulars as to the residence, financial position, etc., of hundreds of persons who were the object of scrutiny. A feature of this class of work is that its volume, so far from diminishing, shows signs of positive increase.

PENITENTIARIES INVESTIGATIONS

We periodically are called upon to assist the Penitentiaries Branch of the Department of Justice. A noteworthy case has been the escape on September 10, 1923, of five convicts from the penitentiary at Portsmouth, much work having been caused us in following up the details of a very complicated affair. This case is still pending. The authorities of the penitentiary from time to time require our assistance in regard to internal conditions.

THE EXPLOSIVES ACT

Our work under the Explosives Act has increased about fourfold in the year. A feature of our activities has been the following up of accidents from explosives. A distressingly large number of these are suffered by children, and in too many cases young people are maimed for life through the carelessness of elders who leave detonators or dynamite cartridges within their reach. The number of accidents caused by detonators is noticeably large.

The usual work of inspecting magazines, stores, etc., was performed.

PROTECTION AGAINST COMMERCIALIZED VICE

The Revd. John Chisholm continues at Montreal his beneficent work of controlling the immigration of women and of combatting the attempts by the harpies of society to recruit dens of infamy. Mr. Chisholm is the head of a systematic organization, the centre of which is Dorchester House in Montreal. Women coming to this country from overseas as immigrants are escorted throughout their journey by directresses on board the ships, by conductresses on the trains, and by suitable persons who meet them at their destination and at places where they change trains, while in addition accommodation is provided for them at Dorchester House. In addition, a measure of protection is afforded to girls going to the United States in quest of employment, etc., and a system of " strangers' secretaries " is being built up in the churches of the country whereby girls moving from one part of Canada to another are shielded. To assist Mr. Chisholm in this work we have invested him with certain powers, which he occasionally invokes with good effect.

Early in 1923 Mr. Chisholm attended the convention in London of the International Bureau for the Suppression of the White Slave Traffic, the visit abroad proving profitable. Mention was made last year of special measures to care for girls of non-English speaking races. In June, 1922, with the co-operation of the editor of a foreign-language newspaper, committees of foreign-born Canadians to meet girls of their race were formed in Winnipeg and Regina. While overseas Mr. Chisholm perfected this organization by securing agents at Amsterdam, Stockholm, and Christiania.

The volume of the work performed is shown by the figures submitted at the annual meeting of Dorchester House for the year ending March 31, 1923. In that period 138 passenger steamers docking at Montreal or Quebec and 85

ships docking at St. John or Halifax were met and the immigrant girls arriving in them were cared for. In all 375 trains carrying third-class passengers were met. The women registered at Dorchester House numbered 3,833.

In consequence of the vigilance which is exercised, procurers are showing a disposition to bring women into the country as cabin passengers; several specific examples of this have been detected.

WORK OF THE DISTRICTS

No changes have been made in the general organization of the force, there still being eleven territorial districts, in addition to headquarters at Ottawa, the depot at Regina, and " N " Division—which is used as a reserve for the discharge of miscellaneous duties—at Ottawa. The northeastern Arctic regions, where our commitments are increasing, are administered from headquarters, and the western coast of the Arctic ocean and the lower Mackenzie by the district of northern Alberta. The reports of the several officers commanding districts contain much matter of general interest.

BRITISH COLUMBIA

This division comprises the province of British Columbia, less the Eastern Kootenay subdistrict, which for convenience of administration is attached to southern Alberta, access to it being by the Crowsnest pass. Assistant Commissioner T. A. Wroughton reports that the year has seen a reduction in strength, the personnel having dropped from 154 of all ranks to 128 of all ranks, and the detachments having decreased from 17 to 11. Six detachments were closed in May, 1923, at Port Alberni, Nelson, Trail, Midway, Stewart, and Kamloops. Two new ones have been established, at Victoria city and at Vernon. A high standard of discipline has been maintained. Nearly all members of the division now have had at least three years' service in the force, and an improvement in individual efficiency and *esprit de corps* is noticeable; with the reduced strength the performance of duties has been kept up, though the assistant commissioner considers a strength of 150 necessary for the work which has to be done.

In dealing with the specific duties to be performed the officer commanding lays stress upon the labour caused by the enforcement of the Opium and Narcotic Drugs Act. While the members of the force under his command have been hampered by certain conditions, the work was carried on with energy, and with good results, 786 specific investigations having been conducted resulting in 162 convictions; in 570 cases no prosecution was entered. One aspect of this work was the vigilance needed to check the smuggling of narcotic drugs into the ports from steamers, this having as its converse the smuggling of arms and ammunition from this country to China.

In a somewhat similar field, that of suppressing illicit distillation of spirits, the tale is different, this offence having practically ceased in the province, outside of some manufacturing of " sake " by Japanese in remote regions for their own use. During the twelve months nine prosecutions were instituted, resulting in six convictions.

The need of looking after the Indians has created a certain amount of additional work. One of the new detachments opened, that at Vernon, was established in response to representations by the Department of Indian Affairs, there being many reserves in the vicinity, and the detachment having been kept busy and having fully justified its establishment. A request to establish a detachment on the Queen Charlotte islands could not be complied with, the

situation being met by patrols from Prince Rupert. Another case is the stationing of a non-commissioned officer at Rivers Inlet for three weeks in August, 1923, to enforce smallpox quarantine regulations among the Indians, and another is the keeping of a small detachment during September, 1923, at Chilliwack and Agassiz to enforce the provisions of the Indian Act among the hop-pickers of the district.

In the northern parts of the province a number of long and arduous patrols were made.

The ceremonial side of our work was not lacking. Two paragraphs from the assistant commissioner's report are:—

"On the occasion of the visit to Vancouver of the late President Harding, in July, 1923, mounted escorts and orderlies were provided and other measures taken for the welfare of the party. Our services have been acknowledged in most complimentary terms.

"The musical ride and displays of tent-pegging and vaulting were staged by us at certain public functions in Vancouver district during the past summer. These displays, staged by our authority, entailed a great deal of extra work, but in most cases our efforts were duly appreciated and acknowledged."

Inspector T. M. Shoebotham attended the International Law Enforcement Conference at Portland, Oregon, in January, 1923, and the annual conference of the Northwest Association of Sheriffs and Police at Vancouver in July, 1923.

SOUTHERN ALBERTA

Superintendent C. Junget, Officer Commanding the Royal Canadian Mounted Police in Southern Alberta, after remarking upon the extensive work performed in co-operation with the Immigration and Customs Departments, and after noting that the convictions obtained under the Indian Act have been chiefly for offences of a minor nature, makes some observations upon the work under the Inland Revenue Act. In the British Columbia portion of his district, he says, the manufacture of illicit liquor is almost unknown. He adds:—

"The same applies to a certain degree to the western part of southern Alberta owing to its proximity to British Columbia and the facilities for getting liquor across. For these reasons the illicit manufacture of spirits is practically confined to the eastern and northern portions of Alberta, so far as southern Alberta district is concerned. Our detachment and plain clothes men are ever on the lookout for stills, and our records show about the same number of cases and seizures as last year."

In dealing with the traffic in narcotic drugs he says:—

"In connection with the above I can record about the same number of convictions as last year. The traffic still exists, but it is becoming more and more difficult for our plain clothes men to unearth the same. This, coupled with the fact that more stringent clauses have been inserted in the Act, such as deportable aliens, has served to put the Chinese element in particular very much on their guard.

"The matter of information has also been rendered more difficult owing to moieties of fines being deleted from the new Act. I am of the opinion that a great deal of the drug traffic is now confined to unscrupulous doctors and druggists, and in such cases it is often very difficult to obtain convictions. We have had, nevertheless, several prosecutions of doctors this year. . . . At a large place like Calgary, the drug traffic, due to the activities of our men, has been kept down to a very low level, and I had the pleasure during the year of being thanked by the Chief of Police of Calgary for, as he termed it, having got rid of the drug traffic in that city."

In dealing with the internal affairs of his district, Superintendent Junget chronicles a fire which on April 26, 1923, gutted the front of the main barrack block at Lethbridge; the building has been repaired, but now is smaller than it formerly was. The discipline has been generally good.

NORTHERN ALBERTA

Superintendent James Ritchie, the Officer Commanding the Royal Canadian Mounted Police in Northern Alberta, notes a decrease in numbers, the personnel of his district standing on September 30, 1923, at 87 all ranks, a decrease of 5. Much work was done, the mileage for horses having been 85,571 and that for motors 14,026.

A duty of a special character was imposed on our men by the labour dispute in connection with what is known as the Penn mine in Edmonton. This is situated on property owned by the Government, and it became necessary to prevent trespass upon this property. On January 4, 1923, a small but sharp riot took place owing to an attack by a mob on a police force which comprised our men, members of the Alberta provincial police, and members of the city police. Violent attacks were made by persons sympathizing with the rioters upon the conduct of the police; an investigation was held, at the request of the City Council of Edmonton, before Mr. Justice Walsh, the result being a complete vindication of the police. The property had to be guarded for some time, and the officer commanding says:—

"During the winter months we had continued patrols on night and day at the Penn mine, which was very arduous work as the men had to be down there in all kinds of weather, which made it very hard on them and the horses. The tour of duty came around frequently."

In noticing the work done under the Opium and Narcotic Drug Act attention is drawn to the need of suitable and reliable agents who can work from the inside; lack of such assistance hampered the work. Superintendent Ritchie remarks:—

"Several cases of medical practitioners purchasing apparently excessive quantities of narcotics were reported to the department. In one case after a long investigation it was found that the doctor's license to practise in this province had been cancelled, but unfortunately the Statute of Limitations prevented our prosecuting him."

An interesting case of co-operation with provincial authorities is thus reported:—

"Recently, with your concurrence, an arrangement was entered into with the provincial Attorney General and the commissioner of the Alberta provincial police, whereby our detachment at Fort Chipewyan, Alberta, would perform all necessary police duties, the province agreeing to pay the expenditure incurred in investigating matters attended to in the past by the Alberta provincial police."

In addition, provincial statutes were enforced in Jasper national park, a number of convictions being obtained; the provincial Game Act was enforced in sundry parts of the province; and there were other instances of our rendering services to the province.

Two cases illustrate how oddly varied our duties can be. One was an inquiry in response to a request by a foreign Chargé d'Affaires at London addressed to the Foreign Office. Another was an immigration case; a man who had been deported from Canada was found at Herschel island, and was again sent out of the country.

The Arctic regions, other than those in the northeast, are administered by this district; they are treated separately, but certain of Superintendent Ritchie's remarks on matters of administration may be quoted. He says:—

"It was intended to establish a detachment at Cambridge Bay, but owing to an accident to the auxiliary schooner *Arctic* in the ice off point Barrow this year, she was prevented from arriving in time with the police freight, and it was found impossible to open a detachment at this point this season, and it is proposed to establish a temporary post at Baillie Island and land the Cambridge Bay outfit there, putting up the knock-down houses intended for Cambridge Bay. There is considerable work to be done in that vicinity, and a useful winter's work can be put in.

"In the Great Slave Lake subdistrict the detachment was re-established at Chipewyan with Corporal Bryant in charge, and we have taken over all police work on behalf of the Alberta Provincial Government. We have our own detachment buildings there and the lot is a police reserve. This detachment was established principally on account of the better being able to handle the situation among the Indians and halfbreeds throughout that district.

"I have already recommended for your consideration the advisability of establishing detachments at each fort in the north for the reason that our work in general is increasing every year. For many reasons a detachment should also be established at Dease Bay on the Great Bear lake."

SOUTHERN SASKATCHEWAN

Superintendent A. B. Allard, Officer Commanding the Royal Canadian Mounted Police in Southern Saskatchewan, reports the abolition of two subdistricts, those of Moose Jaw and Yorkton, as a consequence of shortage of men and pressure of work. No fewer than 4,675 patrols were undertaken, the mileage being 221,459, and the work has increased by 88 per cent. Investigations under the Inland Revenue Act were particularly numerous in this district, totalling 827, with 288 convictions. Superintendent Allard observes:—

"Owing to the work under this Act being on the increase nine more enforcement officers were appointed, which make a total of fourteen; all these men have performed their work most creditably. They have sometimes encountered great difficulties, such as wash being dumped and spirits destroyed, and have been subject to assaults, etc.; in one particular instance a woman actually pointed a loaded shot-gun at one of our enforcement officers; these cases were dealt with under the Criminal Code. I regret to state that the illicit distillation business is on the increase rather than the decrease; owing to the large foreign population, the major portion of offenders belong to this class."

He further says:—

"The Boundary Line detachments have shown great activity in the enforcement of the Customs Act and every assistance was rendered the customs officials when requested; 109 cases were investigated, 16 convictions obtained and 78 cases handed over to the customs; these comprised seizures of automobiles, windmills, etc., smuggled into Canada from the United States of America, no prosecutions being entered, but in most cases double duty was assessed by the department, which was paid and the contraband articles released.

"The Line detachments were also very active in the enforcement of the Immigration Act, co-operating with the immigration officials; 105 cases were investigated, which resulted in 36 convictions being obtained and 42 cases were handed over to the Immigration Department to be dealt with as they saw fit. These cases were mostly of parties unlawfully entering Canada; some were allowed to remain and others were deported. There were also 100 investigations made at the request of the Commissioner of Immigration and Colonization, Winnipeg."

In addition, certain of our men acted as immigration inspectors, one of these appointments being to facilitate and control the entry of harvesters from the United States. Upon the enforcement of the Opium and Narcotic Drug Act Superintendent Allard remarks that most of the cases dealt with originated in Moose Jaw, and adds:—

"The peddlers are very cautious, and it is very difficult to obtain a conviction against them, as this class of people are most elusive and unscrupulous."

A continuance of the robberies of post offices is noted, several such offences having been perpetrated in the district.

NORTHERN SASKATCHEWAN

Superintendent F. J. A. Demers, the Officer Commanding the Royal Canadian Mounted Police in Northern Saskatchewan, notices an increase in the number of cases investigated under the Inland Revenue Act, these having risen to 482, an increase of 51; the convictions numbered 114.

Superintendent Demers observes:—

"Violators of this Act are as time goes on becoming more conversant with the different sections under which they may be prosecuted, and take precautions such as concealing stills on unoccupied land, thus increasing the difficulty of proving ownership."

The usual work was done in connection with the paying of treaty money to the Indians, and in order better to maintain supervision over the Indians a new detachment was opened at Meadow Lake; a constable was stationed at Fort Churchill for a short time after treaty payment.

MANITOBA

Superintendent R. S. Knight, Officer Commanding the Royal Canadian Mounted Police in the Manitoba District, dwells in his report upon the struggle with the drug evil. He says:—

"Three of the principal drug peddlers operating in the city of Winnipeg have been convicted and are serving terms in gaol, while one other left this district and went to the United States owing to the strict police surveillance he was subjected to. Another party known to have been supplying the smaller peddlers is being carefully watched.

"The larger number of drug addicts have found it safer, although a little more expensive, to obtain their supplies through doctors' prescriptions, and for some time our efforts have been directed to check this. Charges have been laid against two doctors in this connection, which were dismissed at the summary hearings, but are being appealed by the Crown. . . .

"The only solution, in the opinion of medical men and police officials, which will meet the situation is the opening of institutions where drug addicts will be compelled to take treatment, and in this way eliminate the drug peddler.

"Since the amendment to the Drug Act, discontinuing the payment of half the fines as a moiety to an informer, information has been considerably more difficult to obtain."

Discussing the work done under the Inland Revenue Act, he says:—

"On behalf of the Inland Revenue Branch, 579 investigations have been made. Out of this number, 175 convictions were secured. Among the many stills seized were two capable of turning out 40 gallons of liquor in an eight-hour day. These two stills are the largest known to have been operated in Manitoba.

"The work in connection with this branch of the federal service entails a large amount of labour without results, especially so in bush country, where the facilities for covering up operations are many, and information given is quite frequently unreliable.

"Owing to the common practice (especially among foreigners) of using domestic utensils in the distilling of liquor, it is often difficult to secure a conviction. Again, many persons illegally manufacturing liquor for sale do not use their own premises, and possession is hard to prove."

With regard to the Indians, Superintendent Knight remarks that the majority of the cases handled were the direct result of the liquor traffic; "but for this feature, crime among the Indians would be almost nil."

Quarantine for smallpox was enforced during the year on three reserves.

Another passage is:—

"Our Kenora detachment rendered valuable assistance in investigating the alleged murder of John Thomas (Indian) in the Red Lake, Ont., District, two arrests being made, and the suspects handed over to the Ontario provincial police. At the end of the period covered by this report, this case was still before the court. Both the Indian agent and the provincial officials have been pleased to comment favourably on the work done by our men in this connection."

In dealing with naturalization cases, Superintendent Knight observes:—

"It has been noticeable that a number of foreigners, members of Communist organizations, have been applying for naturalization, having been urged to do so by their leaders."

Reference already has been made to the help given to the provincial authorities in checking the incursions of bank robbers from United States territory.

WESTERN ONTARIO

Superintendent H. M. Newson, the Officer Commanding the Royal Canadian Mounted Police in Western Ontario, mentions the disastrous fire which in November, 1922, ravaged northern Ontario; admirable work was done in this connection by Inspector W. J. Beyts and Sergeant E. Pascoe at Haileybury; the homes of all the members of the detachment at that place were destroyed, together with Government records and their personal effects. Inspector Beyts contracted pneumonia and died as a result of his exertions on this occasion.

A change in the arrangements of this division was necessitated by the establishment in February of the detachment at Ohsweken, as already described. A feature of the work of this detachment is that it has proved advisable to use horses, the roads being unsuitable for motor transport during the winter.

On the subject of transport in general, Superintendent Newson remarks:—

"The question of mobility is becoming more important as time goes on; what with the good roads and the high-powered cars used by crooks and smugglers, the only way to be in a position to meet same is by means of efficient motor transport."

In dealing with the struggle against narcotics, he remarks that the trafficking in drugs between Canada and the United States has received special attention; he adds:—

"Further assistance was rendered the Department of Health by visiting a number of drug stores to see if the necessary narcotic drug records were being kept. In some instances it was found that druggists were neglecting to do this. A warning was given, where such was found to be the case, and a subsequent visit paid in each instance showed that the proper returns required by the Act were now being compiled."

Dealing with the enforcement of the Customs and Excise Act, Superintendent Newson observes that seizures of silk, dresses, cloth, etc., of approximately $4,000 have been made.

A somewhat unusual case is thus noticed:—

"Excellent work was also performed by Sergeant A. Birtwistle (in charge of the Ford City, Ont., detachment) in connection with his investigations at London, Ont., into the origin of a series of fires in London, which culminated in the destruction in April, 1923, of the Tecumseh and Wolseley military barracks, as with the apprehension by him of one John Vincent Ison the mystery of not only the burning of these Government buildings, but twenty-four other fires in and around London over a period of four years, which had previously defied solution, was cleared up. Ison was sentenced to ten years' imprisonment."

EASTERN ONTARIO

Superintendent T. S. Belcher, Officer Commanding the Royal Canadian Mounted Police in Eastern Ontario, reports a considerable increase of work. The work in this division differs from that in other districts in that a large proportion of it consists of the guarding of Government buildings and property at Ottawa. In addition, a considerable amount of work of the normal type has to be performed; for example, the detachment at Senneterre in Quebec has been kept busy principally in enforcing the Indian Act and hunting down illicit stills; and throughout the district there has been a considerable increase in cases under the Inland Revenue Act. Another department of the work of this division has had to do with the Opium and Narcotic Drug Act; concerning this Superintendent Belcher says:—

"There was a considerable reduction in convictions secured under the Opium and Narcotic Drug Act, being thirteen less than the previous year, but there are a number of cases still under investigation. This reduction in convictions is mainly due to two things; one is that since the Act was amended it has been practically impossible to get any informer to work when there is no moiety of the fine, and it is extremely difficult to secure evidence

without having these informers; the other cause of this reduction, which would tend to prove the effectiveness of the investigations that have been carried on under this Act, is that it has been conclusively proven that the number of addicts in this locality is greatly reduced and it is getting more difficult all the time for them to secure drugs, as the amount in circulation is not nearly so great as it used to be; the distributors or peddlers being very careful whom they sell to. Recently a special agent has been employed for these investigations, and his work to date is very satisfactory. He has been the means of securing sufficient evidence to lead me to believe that in a number of cases now under investigation convictions will be secured, and he has also verified the information secured from several other sources regarding the reduction in the number of addicts and amount of drug available."

The great volume of work performed in the Government departments at Ottawa, and the large staff employed, naturally give rise to a number of incidents which require investigation. In general the year has shown a decrease in the slighter sort of cases, such as inquiries for missing persons, and an appreciable increase in more serious investigations; and as the staff employed on this type of work was somewhat depleted the work done compares favourably with that performed in other years.

There has been an increase among the constables during the year. An order was received that every man in the division was to be allowed one day's holiday in the week, and this entailed an increase in numbers, and the taking of men off certain doors during the day time. Annual leave is given to all. Guards were placed on 28 buildings, taking an average of 106 men for every 24 hours; in addition, 7 night supervision and 8 day relief men had to be kept. Patrols of Government buildings also were maintained. Special duties performed had to do with the protection of the Finance Department.

Superintendent Belcher reports favourably upon the discipline and conduct of the division.

QUEBEC

Inspector J. W. Phillips, the Officer Commanding the Royal Canadian Mounted Police in the Quebec District, deals in his report principally with a number of types of law-breaking with which he has to contend, the work of this division being predominantly of a detective nature. Dealing with work for the Customs and Excise Department he says:—

"In co-operation with the Customs Department, members of this detachment have been instrumental in making a number of seizures under the Customs Act. Corporal Harvison and Constable Barnes, assisted from time to time by other members of the detachment, have worked almost exclusively in this branch. Their activities have been largely confined to the smuggling of silk from the United States. In all, seizures of silk amounting to approximately $16,000 were made, and the fact that few convictions under these seizures were obtained is due to technicalities in the law rather than to the methods adopted by those who made the seizures.

"Jewellery to the value of approximately $2,000 was also seized.

"Three steamships which were instrumental in smuggling drugs from foreign ports were placed under seizure, being liberated upon the payment of deposits amounting in all to $1,200."

In this connection Inspector Phillips mentions an arrest which was effected in the face of determined resistance:—

"At the request of the Department of Customs, Sergeant Henderson and three men were sent to St. Anastasie de Nelson to effect the arrest of François Langlois. Langlois was wanted in connection with the Inland Revenue Act, and by virtue of difficulty having been experienced in approaching him, coupled with the fact that he had sworn to shoot any one attempting to arrest him, he was regarded as a dangerous man. Sergeant Henderson and his patrol approached Langlois' house, but could get no response to repeated knocking at the door. It was then decided to enter the house by one of the windows. Sergeant Henderson thereupon climbed into the window and found himself confronted by Langlois, who pointed a rifle at him. Langlois was supported by his wife, who brandished a long pole. Sergeant Henderson sprang to the ground and Langlois then pointed the weapon at

his body, pulling the trigger at the same time. Fortunately the cartridge in the chamber did not detonate, and after a sharp struggle Langlois was arrested and conveyed to the local jail. He was subsequently charged with attempted murder, which charge was later changed to one of common assault. The accused was sentenced to three weeks in jail."

Dealing with the traffic in narcotic drugs he says:—

"Our activities under this heading have been continued with the same acumen and vigour as heretofore. The results, however, judging from the number of convictions, would not appear to support this statement. This is due to several reasons."

One of these reasons, Inspector Phillips states, is that the city police have organized two morality and drug squads, which have adopted effective measures. Another has been the adoption of the policy of confining our efforts, so far as possible, to attacks upon the fountain heads of the traffic.

A considerable proportion of our work in relation to counterfeiting is done in Montreal. One of these cases has been mentioned already. Another case which presents some elements of singularity is thus reported:—

"Two more cases of counterfeiting have received our attention. The first of these was the case of Martin alias Duval. This man attempted to pass counterfeit ten-dollar bills. These bills were so obviously counterfeit that, except for the serious nature of the offence, the affair might have been regarded as a joke. The notes were apparently the work of a novice. A search of the man's room was made, which revealed a set of tools of an improved type. Further investigation of the case after the arrest of Duval led to the discovery that the latter was an escaped 'lifer' from Kingston. He was duly returned to the authorities at the penitentiary."

THE MARITIME PROVINCES

Inspector C. D. La Nauze, the Officer Commanding the Royal Canadian Mounted Police in the Maritime Provinces, draws attention to the work done for the Department of Customs and Excise and for the Department of Marine and Fisheries; reference already has been made to these phases of his work. In dealing with aid to the customs officers he observes that more work could be performed in certain areas had he a larger staff and the necessary transportation facilities; as things are, he has just enough men to perform the duties now undertaken. On the whole the volume of work has increased. A considerable proportion of our strength in this division is absorbed in the work of protecting the property of the Naval Service Branch of the Department of National Defence, 27 uniformed men being maintained in Halifax for this purpose. When additional men were needed for fisheries protection it was necessary to borrow a number of men from "N" Division at Ottawa to make up the strength.

A useful piece of work was a successful investigation by Detective Sergeant Lucas at St. John, N.B., into the theft of military transportation warrants in 1919-20.

THE YUKON

Inspector E. Telford, Officer Commanding the Royal Canadian Mounted Police in the Yukon, draws attention to a familiar aspect of our work in this region, the variety of duties performed. In dealing with the assistance rendered to other departments, he says:—

"Under this head I would draw your attention to the multiplicity of work performed by the force in this territory. All coroners' work is performed by the officers, and also magisterial work at places other than the towns of Dawson and Whitehorse. Reg. No. 3193 S/Sgt. Dempster, W.J.D., performs the duties of magistrate and coroner for the Mayo district; non-commissioned officers and constables on detachments act as postmasters, veterinary inspectors, immigration officers, customs officers, collect royalties, etc.; the Officer Commanding Whitehorse and district acts as sub mining recorder, Crown timber and land agent, deputy sheriff; the Officer Commanding the division acts as immigration

inspector and fishery inspector for the Yukon Territory, registrar of vital statistics, and chief inspector of weights and measures, Department of Trade and Commerce, in which he is assisted by a non-commissioned officer at Dawson and Whitehorse as sub-inspectors; all members of the force are game guardians, *ex officio*, for Yukon.

"Besides enforcing federal and Yukon statutes and ordinances, we enforce the city by-laws, collect royalties on gold exported, issue permits for the export of fur, and issue licenses to big game hunters; under the direction of the public administrator estates of persons dying from accidental, sudden or violent deaths, and those of insane persons, in outlying points are looked after by us."

"N" DIVISION, OTTAWA

As has already been observed, this division serves as a reserve upon which to draw for duties of a special and emergent nature. An example of the use made of it has been given in connection with the escorts to the harvesters' excursions. Inspector C. Trundle, in command of this division, in his annual report, mentions this among other such duties. This division supplied details amounting to 20 non-commissioned officers and men for guard duties at federal taxation offices in April and May at Toronto, Hamilton, London, Kingston, Belleville, Montreal and Quebec, appreciative letters having been received from the inspectors of taxation at London and Quebec. The watching of the operation of the pari-mutuel machines, already noticed, also elicited a letter of thanks from the Western Racing Association at Windsor. This division furnished a proportion of the party which visited the Grand River Indian Reserve, as described in the account of our co-operation with the Department of Indian Affairs. An example of the rather miscellaneous nature of the duties discharged is to be found in the despatch of a constable during the summer to enforce the Migratory Birds Act on the north shore of the St. Lawrence. Acknowledgment was made by the Chief Federal Migratory Birds Officer for Ontario and Quebec of the value of this assistance. A constable from this division was stationed at Murray Bay during the season.

This being a mounted division, a somewhat unusual amount of ceremonial duties falls to its lot. A mounted escort was furnished for His Honour the Lieutenant-Governor of the province of Ontario on the occasion of his official visit to Ottawa at the opening on September 10, 1923, of the Central Canada Exhibition, a letter of appreciation being received from His Worship the Mayor of Ottawa in connection with this. Several musical rides were given, and evoked letters of thanks.

TRAINING

Superintendent A. W. Duffus, the Officer Commanding the Depot at Regina, reports a decrease in strength owing to transfers and discharges. The engagements numbered 69, of whom 59 were recruits; 3 officers, 9 non-commissioned officers and 38 constables were transferred to other divisions. Training proceeded upon the familiar lines, special remark being bestowed upon the good work done in musketry; excellent showings were made in the Regina Rifle League, the Saskatchewan Provincial Rifle Association, the Canadian Rifle League and the Canadian Revolver Association. The depot came first in the Lieutenant-Governor's match and third in the Grand Aggregate at the provincial match, and won a number of revolver championships. Troop and squadron drill has been carried on.

WORK IN THE FAR NORTH

During the past year two courts have been held in the Northwest Territories, at which capital cases were tried. At Herschel Island the persons charged with the murders of Corporal W. A. Doak, Royal Canadian Mounted Police,

Otto Binder, Pugnana and Ahkak were tried; and at Ponds Inlet the persons accused of the murder of Robert S. Janes were tried. The holding of these courts, within the Actic circle, marks a highly interesting step in the development of these remote regions.

THE TRIALS AT HERSCHEL ISLAND

The judicial party for the trial at Herschel Island left Edmonton on June 12, and returned on September 21, 1923. It was composed of His Honour Judge Lucien Dubuc; Mr. I. B. Howatt, K.C., of Edmonton, counsel for the Crown; and Mr. L. T. Cory, of Ottawa, counsel for the accused and for the Department of Indian Affairs. The party was accompanied by Sergeant F. E. Spriggs and two constables, one of whom acted as court stenographer, and all arrangements were made by this force. The party arrived at Herschel Island on July 12, a jury having been obtained from Norman, Good Hope, Aklavik and Herschel Island. Court was opened in the police barracks, the only available building, at Herschel Island, and the following Eskimos were tried:—

Ekootuk; charged with the murder of Ahkak; found guilty of manslaughter; sentenced to one year's imprisonment at Herschel Island.

Alikomiak; charged with the murder of Corporal Doak, Otto Binder and Pugnana; found guilty; sentenced to death.

Tatamigana; charged with the murder of Pugnana and Hannak; found guilty of murder in the case of the former and of manslaughter in that of the latter; sentenced to death on the first charge and to five years' imprisonment on the second.

Olepsekak; charged with the murder of Ahkak; acquitted.

Amokuk; charged with the murder of Ahkak; acquitted.

A feature of the trial was the careful explanation given by His Honour the Judge to the assembled Eskimos of the nature of the proceedings, the functions of the several officials comprising the court and jury, and the purpose of the trials. He laid especial stress upon the pains taken to prevent the wronging of an innocent person.

The main outlines of these cases were stated in earlier reports.

Before leaving this case reference may be made to a minor aspect of it of some interest to us. The shooting affray at Kent Peninsula out of which the murders of Corporal Doak and Mr. Binder sprang was first noticed by us in the annual report of 1921. At that time the case had not been investigated, but Inspector S. T. Wood sent a preliminary report. In this he carefully stated that the stories told to him disagreed in many details, "as it is all hearsay." He quoted, under reserve, one version which was given to him, which said that Mr. Binder had taken the wife of Ikialgina, one of the aggressors in the fight, to live with him. The reports in the annual report for 1922, while mentioning the fact that Mr. Binder had a native wife, said nothing about the story that she had been the wife of Ikialgina. In public comments which were made upon the case much was made of the remark in the 1921 report; a theory was constructed that Ikialgina had been driven to violence by the wrong supposed to have been inflicted upon him by Mr. Binder; and the absence of any reference to this in the 1922 report was explained by accusing me of garbling my official report to shield Corporal Doak's fellow-victim. Concerning this it is sufficient to say that Mr. Binder's native wife had not been the wife of Ikialgina, nor of any member of the tribe to which she belonged; she came from a different region, and became Mr. Binder's wife with the full consent of her family.

THE TRIALS AT PONDS INLET

The judicial party for the trial at Ponds Inlet left Quebec in the ss. *Arctic* on July 7, arrived at Ponds Inlet on August 21, and returned on October 4. It was composed of His Honour Judge L. A. Rivet, of Montreal; Mr. A. Falardeau, of Quebec, Crown prosecutor; Mr. Leopold Tellier, of Montreal, counsel for the defence; and Mr. F. X. Biron, of Montreal, clerk of the court. Inspector C. E. Wilcox, Staff-Sergeant A. H. Joy, and a number of non-commissioned officers and constables of this force were present and made the necessary arrangements. The court opened on August 25 at the police detachment, a jury being appointed from the crew of the *Arctic*. The persons tried and the results were:—

Noo-kud-lah, alias Ki-wat-soon; found guilty of manslaughter; sentenced to ten years' imprisonment in Stony Mountain penitentiary.

Oo-roo-re-ung-nak; found guilty of manslaughter and recommended to the clemency of the court; sentenced to two years' imprisonment with hard labour in the Royal Canadian Mounted Police guardroom at Ponds Inlet.

Ah-tee-tah; acquitted.

The circumstances in which R. S. Janes was killed were given in the last annual report.

Inspector C. E. Wilcox, the Officer Commanding the Royal Canadian Mounted Police in the subdistrict, reported on the trial in the following terms:—

"This trial was conducted throughout strictly in accordance with the Rules and Regulations of the force, and with all the decorum of a Supreme Court in civilization. Two fully uniformed men were detailed as prisoners' escorts, and a non-commissioned officer to act as orderly and escort to the presiding judge. The whole proceedings were handled in an excellent manner.

"The counsel for the defence in his plea for the accused pointed out the weakness of the evidence against Ahteetah, and urged that he be discharged. He pleaded that the life of the Eskimos, their ignorance of the laws of civilization, and the provocation given them by Janes be taken into consideration by the jury in arriving at their verdict.

"The counsel for the Crown pressed for a conviction of the three accused, and stated that in civilization he would ask for a verdict of murder, but taking into consideration the ignorance of the prisoners, he only asked for a verdict of manslaughter. He informed the jury they could, if they desired, recommend the accused to the clemency of the court. The judge in summing up, after thanking the officials of the court for their attention and efficient work during the trial, highly complimented Staff-Sergeant Joy for the splendid and efficient manner the whole case had been handled, from the commencement of the investigation to the present time. The following are amongst the judge's remarks:—

"'Before dealing with the merits of this case, I wish to refer briefly to the excellent work done by Staff-Sergeant A. H. Joy, of the Royal Canadian Mounted Police, in connection with the collecting and securing all the necessary evidence against the prisoners. This work has been accomplished through many and varied hardships in a wild and desolate country, being alone as a white man amongst uncivilized people, some of whom were responsible, directly or indirectly, for the killing of Robert S. Janes, during winter, in continuous darkness, having to go through the terrible storms prevailing at that time of the year. Mr. Joy deserves the highest praises and countenance for his work and success which has crowned his most meritorious efforts. I must say, though, that I am not in the least surprised at the conduct of Mr. Joy, because such has been only in keeping with the traditions of that noble force which has won for itself a reputation of heroic devotion to duty, tenacity of purpose, endurance, bravery and unflinching faithfulness to its ideals. Through the able and conscientious guidance of the commissioned officer in charge of the district, two posts have been established in the last year at Ponds Inlet, on Baffin island, and Craig Harbour, on Ellesmereland, and through their exertions a good deal of good had already been accomplished towards the maintenance of law and order in that extreme northern country.'

"It was apparent that the trials had been a severe strain on the accused, for they looked quite unwell at the termination.

"The effects of the sentence, I believe, will have a more beneficial effect than a sentence of death. The prisoner Noo-kud-lah was led away immediately after sentence was passed, to the ship, through a gazing crowd of his own people, without being given a chance to communicate with any of them. It is hardly possible that a native with the prestige that Noo-kud-lah must have had with the other Eskimo at the time he killed Janes could have

been subjected to greater humiliation than to be led away directly under the eyes of not less than one hundred of his relatives and friends.

"After the termination of the trial, the judge addressed the entire Eskimo population outside the detachment, telling what they had to expect from the representatives of the Government, that they could expect kindness and protection from the police if they behaved well, but if they committed any crime they could expect to be punished. They all immediately afterwards joined in three generous cheers for the judge."

The prisoner Noo-kud-lah was escorted by a member of the force to Quebec by the ss. *Arctic*, and thence to Stony Mountain penitentiary, where he was taken into custody on October 8.

As evidence of the enormous area over which news travels in these regions, it may be mentioned that in July, 1923, Mr. Peter Freuchen, a member of Mr. Knud Rasmussen's exploring party, told Inspector E. G. Frere, Officer Commanding the Royal Canadian Mounted Police at Chesterfield Inlet, that in May, 1922, he had been at Fury and Hecla strait and had heard the story of the murder, the details given being substantially as elicited in the judicial proceedings.

NEW POSTS ESTABLISHED

Our work in the Arctic is undergoing a considerable extension. As noted in the last annual report, there has been a considerable increase in our personnel in the northeastern islands. Inspector C. E. Wilcox having established a detachment at Craig Harbour on Ellesmere island, wintered there; it had been intended to move the detachment to Cape Sabine, on the east coast of Ellesmere island, about 200 miles farther north, but it proved impossible under the ice conditions prevailing to reach that point, so that Craig Harbour remains the site of the detachment.

Inspector Wilcox this summer established a new detachment at Pangnirtung Fiord, in Cumberland gulf, on the east coast of Baffin island. This has become of late a trading centre of considerable local importance. He landed there on September 11 from the ss. *Arctic*, the detachment buildings were erected, and the *Arctic* left on September 22, leaving Inspector Wilcox and his party there. Inspector Wilcox in his report says:—

"The site decided upon for the post is well protected from the winds, and a convenient spot on the southeast shore of the above-mentioned fiord. Pangnirtung fiord, lat. 66° 5′ north, long. 65° 35′ west, runs in a northerly direction, and is bordered on both shores by high rugged hills with valleys intersecting them. This place is supposed to be an excellent hunting ground for caribou."

Turning from the northeast to the northwest, new posts will be established at Fort Providence, Fort Rae, and Fort Hope. Of these, Fort Providence is on the Mackenzie river below its emergence from Great Slave lake; Fort Rae is on the north arm of Great Slave lake; and Fort Good Hope is at the confluence of the Mackenzie and the Bear river, which flows from Great Bear lake. The policy of opening these new posts was decided upon after consultation with the Department of Indian Affairs, the Commissioner of the Northwest Territories, missionaries, and other interests concerned. Their principal purpose is to control the native population.

The post at Aklavik, which has replaced Herschel Island as the headquarters of the subdistrict, is being improved. The officer commanding the district says in his annual report:—

"Two small buildings were transferred from McPherson last summer and re-erected here and used by the married non-commissioned officers and men respectively. Sergeant Anderson occupied a tent all winter. The foundation for quarters for the medical officer was laid last fall and this will be completed this year. The work of building is slow due mostly to the inexperience of our own men and the difficulty of obtaining suitable building logs. The saw-mill received last summer was erected and a fair quantity of lumber cut for

floors and roofs. A couple of shacks kindly lent by the Hudson's Bay Company are used for storehouses. It is to be hoped that a start can be made on a barrack room to accommodate six men this fall. Much time was taken up last fall in putting in a foundation for the sawmill and making the necessary trips to Herschel Island with launch for supplies, etc."

Superintendent Ritchie's comments on the Tree River detachment illustrates the rigours of the service in these latitudes. He says:—

"At Tree River it is regretted that the new quarters built by members of that detachment in the fall of 1921 are far from satisfactory, being exceptionally cold and uncomfortable. This is due to various causes: among others, it was a hurry-up job; the lumber could not be dried before it was put on, and our men were inexperienced in house building. The consequence was that after the building was occupied the lumber contracted with the heat so that the roof and walls opened up and no amount of plugging would keep out the cold. The storehouse of corrugated iron has already been torn down and moved twice, so is no longer weather proof, materials being sent in this year to put building in shape."

Superintendent Ritchie's remarks upon the detachment at Baillie Island have already been quoted.

WINTERING IN ELLESMERE ISLAND

Inspector C. E. Wilcox and his party spent a lonely winter at Craig Harbour; the *Arctic* left them on August 28, 1922, and they had no intercourse with the outside world until the ship returned on August 6, 1923. The site was selected under the pressure of difficulties of navigation, haste being necessary; it is suitable in that it is a sheltered place, being situated on a small flat with hills some 2,000 feet high encircling it on the landward sides; the hills, however, prevent free movement about the country, the supply of game is inadequate, and at present no Eskimos live in the vicinity. It accordingly was a matter of spending the winter, and this was done without special incident. Inspector Wilcox remarks:—

"The sun was last seen on October 25 and did not again appear until February 13, a period of 109 days of darkness and intense cold. Severe blizzards were frequent and during January the wind blew for 21 days without a break, at times with the violence of a gale; a comprehensive idea of the winds of this region can be gained from the fact that during a period of 304 days the wind blew strongly for 221 days, frequently compelling the men to remain indoors for days at a time. The coldest temperature recorded was 51 degrees below zero in March, during which month the temperature averaged 35 degrees below, the coldest month of the year."

Patrols were sent out to a distance of about 75 miles; the scarcity of dogs, which was general in this part of the Arctic, caused these to be made on foot. The discipline was excellent, and the men cheerful throughout.

PATROLS ON BAFFIN ISLAND

At Ponds Inlet, Staff-Sergeant A. H. Joy was chiefly occupied in preparations for the trial of those charged with the murder of R. S. Janes. In particular Corporal McInnes and Constable McGregor, with three Eskimos, undertook a patrol to Igloolik, otherwise Fury and Hecla strait; the distance travelled was at least 600 miles and the time occupied was 58 days. Corporal McInnes gives the following account of the Igloolik settlement:—

"The Igloolik Eskimos were at this time divided into five different villages, the largest being at our present camp, and all located within a radius of 40 miles. A stray family or two, however, were isolated from the villages and hunting some distance down the coast.

"During our 15 days' stay here we were visited by members of all the other camps. They seemed to be a carefree and happy bunch. They treated us with the kindest hospitality and were willing to give us every assistance.

"There was a scarcity of dogs with every family. Some of them who, two years ago, had 15 to 20 dogs now had only one or two, and a few none at all, which had curtailed their movements to a great extent during the winter. I had been expecting to buy several dogs here for the detachment, but was unable to purchase any. On the other hand, they would willingly have bought ours had we wished to part with them.

"I met all the Eskimos who were required to report at Ponds Inlet and instructed them accordingly. Some of the men required were amongst those most poorly off for dogs, and several days elapsed before arrangements were completed to enable them to travel.

"I had no trouble in picking up enough meat to feed our dogs freely during our stay at Igloolik and for the journey home. I was afterwards informed that the natives then had enough in cache to last them through another winter.

"I was unable to purchase any deer skins from any of the Eskimos I saw. They informed me that caribou had been scarce in the district during the last year, and they had been able to get barely enough skins for their own needs.

"From the information I gathered, the district of Igloolik must be one of the best in the north from a native's point of view, as game of all kinds that inhabit the northern country is said to be plentiful here at some season of the year. Walrus can be killed right at hand throughout the year, and are especially plentiful about the small islands at the mouth of Fury and Hecla strait during the spring and summer. Seals are also plentiful, especially the large seal, or Oojouk, which is most needed by the Eskimos for shoes, lines, dog harness and other equipment. Bird life is also plentiful in summer, particularly the eider duck, which are said to be so numerous at times and create so much noise that they keep the people from sleeping. The natives gather large quantities of eggs of all kinds, which they use for food during the summer, and make caches of them for winter use. The natives are within easy reach of the track of migration of the Baffin Land herd of caribou, which passes only a few miles inland from the inlets off Fury and Hecla strait. Hundreds of these animals are killed here during the average year, and large caches of meat put away for the winter. They can also be found there in small numbers throughout the winter.

"The Igloolik tribe of Eskimos consists approximately of 35 families. Many amongst them have defective eyesight. Three adults are totally blind, and several others have lost the use of one eye. They are very enthusiastic over religion, which they follow in their own crude style, singing hymns and reading from their Testament several times a day. The most attractive pastime, however, is trying to count the number of the pages and the hymns.

"They demonstrate the fact that they are christianized by carrying a flag, generally white, attached to the komitik when travelling, and while at the village they greet all arrivals by the grown population lining up side by side in the most prominent place in front of the igloos, when the arrival is within hearing distance they all join in singing a hymn. The arrival approaches the line-up within a few yards, then stops his komitik and remains standing until the hymn is finished. The singers then advance in single file and greet him with three shakes of the hand. The dog team at times takes this restraint in a passive manner, and at others they require considerable force to prevent them from going headlong into the camp, or becoming entangled in a battle royal with the dogs of the village.

"The same formalities are gone through on the return of a resident of the village if he leaves only for a few hours."

KILLING OF THREE ESKIMOS AT HOME BAY

A brief preliminary report appeared in the last annual report of the killing of three Eskimos at a place called Kivetuk, on Home bay, on the eastern coast of Baffin island. Staff-Sergeant Joy was unable during the winter to visit the place and conduct a regular investigation, but at Ponds Inlet he obtained a circumstantial account of the tragedy from an Eskimo named Peneloo, a relative of one of the persons concerned. It is a dreadful story of religious insanity on the part of the principal actor, and of credulity on the part of his associates. A man named Neakuteuk, who for some years had represented a trading company, and who owned some property, professed inspiration, and ordered his fellow tribesmen to perform various ceremonies and actions, some of which were meaningless and some repulsive. One singular passage in the report has to do with his reading of the Bible:—

"He said he could not understand what was written in the book. He then told all the Eskimo to leave the igloo, while he remained in the igloo alone with another Eskimo to read. A short time afterwards he asked the companion to leave the igloo also, which he did. After a while the companion returned and still Neakuteuk was unable to understand what he was reading and was annoyed at himself. He turned to his companion, and drew his attention to a stick standing at hand, and told him he would get ready to go outside, and when he (Neakuteuk) gave the signal, the companion was to seize the stick and strike Neakuteuk over the head, if possible, before he could get out the igloo, and thereby try and make him understand what he was reading. Neakuteuk gave the signal to his companion, and at the same time started himself for the igloo door; the companion seized the stick

and struck Neakuteuk over the head and knocked him senseless. The wounded man returned to his senses after a while, and when he got up the blood was flowing freely from his head where the companion had struck him. Neakuteuk returned to his reading, and told the companion he understood quite well what he was reading."

After keeping the tribe for some time without food or sleep, Neakuteuk threatened them with a knife and a rifle, and caused them to kill a number of their dogs. The sanity of some of them seems to have suffered under the strain, for a blind man named Munyeuk went to Neakuteuk and said, according to the translation supplied to us, "I want some wind inside me so that I can go up to Jesus." After some further talk Neakuteuk declared that that was a good time to kill Munyeuk as he was full of God's spirit, and later might be bad and lose the spirit. Under strong pressure from Neakuteuk two men, Kautak and Kedluk, stabbed Munyeuk to death. The same fate then befell an Eskimo named Lemik, concerning whom the statement says that he "had dreamt the previous fall that his spirit was asleep," and that he "had been repeatedly questioned by the other natives during the interval if his spirit had opened yet," to which he always had replied in the negative. Lemik could neither read nor write, and Neakuteuk attributed his illiteracy to something "bad inside"; it is alleged in the statement that Lemik thereupon read the Bible and wrote with a pencil. The same two men thereupon were directed by Neakuteuk to kill him, on the same grounds as in the earlier case, and they obeyed. Neither of the victims offered any resistance.

Neakuteuk's frenzy increased, and his behaviour became still more threatening; at last, when he was about to strike a woman, Lemik's wife, with a hammer, a man named Kidlappik, whom he had threatened, shot and mortally wounded him. His body was treated with unusual care.

The abnormal condition of these people's minds is shown by the following passage in the statement:—

"During the time the aforementioned things were happening, the Eskimo told me, all the people were as if asleep. Their minds were on their own camp only. The sun returned without being noticed, and it was only some time after Neakuteuk was dead that the Eskimo saw that the sun was in sight."

There were nine Eskimo men in the little community.

In forwarding this statement Staff-Sergeant Joy added some strange particulars as to the hallucinations of these people:—

"The state of mind of the Eskimos living at Kevetuk at the time the murders were committed may be imagined from parts of Peneloo's statement, and other information which is not embodied therein. He stated that Neakuteuk's wife informed him that on the morning following the day Neakuteuk was shot, when preparations were being made to wash his body, the water for the purpose was being heated on primus lamps and one of the lamps sang a song to the effect that its flame was everlasting and could not be extinguished by anybody. At the same time, too, the dead man, whose body was in the igloo and frozen stiff, was seen to breathe, laugh, and raise his hands above his head, or in other words come back to life. Then Kidlappik, who was sitting near the feet of the dead man, sank as if he had fallen asleep, evidently fainted, on two occasions, and remained so for a long time.

"After Neakuteuk's body was washed Takoshaga threw three handfuls of the bloody water in the face of each grown person present, and one handful in the face of each child."

The matter will be further investigated.

ALLEGED MURDER OF OOK-PA-TOW-YUK

In April and May Staff-Sergeant (now Inspector) W. Munday conducted a patrol inland from Chesterfield Inlet to Baker Lake. At the latter place he was told by the manager of the Hudson's Bay Company post that a native named Ook-pa-tow-yuk had been shot and killed by another Eskimo named E-ter-goo-yuk at a place about 75 miles north of Baker Lake. Staff-Sergeant

Munday investigated, experiencing considerable difficulties, the natives being afraid to go near the body; he had to examine and bury the body himself. It appears that the deceased and the alleged murderer hunted for a native trader known as Ellen Nack and that in March, 1923, they set out from Ellen Nack's camp to the trading post at Baker Lake with a quantity of furs. According to Ellen Nack's story, on the third day after they had left E-ter-goo-yuk returned alone, with the other man's cartridge bag; he gave the explanation that Ook-pa-tow-yuk had told him to return, as he had met another Eskimo and would travel with him. Afterwards E-ter-goo-yuk left for the Arctic coast. About three weeks later other natives found Ook-pa-tow-yuk's body. It was outside the igloo where the two men had slept; to all appearance the deceased had been packing and lashing their sled preparatory to setting forth when he was shot; his rifle was leaning against the igloo, and sled tracks were near. The conjecture formed by Staff-Sergeant Munday was that the two men had quarrelled and that E-ter-goo-yuk had shot his companion.

The lateness of the season forbade further investigation at the time. The case will be followed up, but may be expected to be difficult, as the man suspected of the crime may have gone to the Arctic coast, and, as we know from the experience gained on the Bathurst Inlet patrol, travel in that region is exceptionally arduous.

Mention was made in the last annual report of the alleged murder in the winter of 1920-21 of an Eskimo named Poya-tack north of Repulse bay. Owing to the inaccessibility of the region, it has not as yet proved possible to investigate this affair.

TICKET OF LEAVE ACT

This force administers the Ticket of Leave Act, keeping the necessary check upon the movements and conduct of the convicts who are released upon parole. This year the number released was substantially the same as that in 1922 The figures in detail are:—

From October 1, 1922, to September 30, 1923—		
Released on parole from penitentiaries	601	
Released on parole from prisons, gaols and reformatories	562	
		1,163
Licenses revoked	22	
Licenses forfeited	34	
Sentences completed on parole	1,209	
Licenses made unconditional	32	1,297
From 1899 to September 30, 1923—		
Released on parole from penitentiaries	7,520	
Released on parole from prisons, gaols and reformatories	8,676	
		16,196
Licenses revoked	543	
Licenses forfeited	377	
Sentences completed on parole	14,511	
Sentences not yet completed	765	
		16,196

CRIMINAL IDENTIFICATION

The Finger Print Section continues to assist all police forces in Canada, but at the same time the finger print system of identification would be of still greater assistance in prevention and detection of crime if every chief constable in the Dominion would see that persons charged with indictable offences and in lawful custody charged under paragraphs A, D, or E of section 4 of the Opium and Narcotic Drug Act, were finger printed and the finger prints forwarded for record.

The return given below covering the year's work shows an increase of a little over a thousand cases.

Month	Finger-prints received	Identifications made	Parole violators located	Escapes located	Photo. negatives received	Photo. prints made	Photographs received
1922							
October	1,666	237	3	.....	100	300	363
November	1,538	185	2	3	77	231	326
December	2,020	219	3	1	64	192	224
1923							
January	1,699	242	6	1	66	198	185
February	1,606	182	1	.....	69	207	164
March	1,750	195	4	1	69	207	213
April	1,659	202	3	2	84	252	176
May	1,359	178	4	1	70	210	214
June	1,538	175	2	.....	112	336	152
July	1,379	159	2	1	42	126	244
August	1,184	163	3	.....	17	51	220
September	1,390	160	3	.....	71	213	204
	18,788	2,297	36	10	841	2,523	2,685

The following table gives a resume of the work of the section to date:—

Finger-print records received and identifications made from January, 1911, to September 30, 1923:—

Year	Records	Identifications
1911	5,554	145
1912	4,418	227
1913	6,510	359
1914	8,475	581
1915	9,330	756
1916	8,009	629
1917	7,079	612
1918	8,941	670
1919	11,306	1,004
1920	12,591	1,372
1921	17,346	1,906
1922 (Nine months to Sept.)	13,022	1,499
1923 (1st Oct., 1922-30th Sept. 1923)	18,788	2,297
	131,369	12,057

ENGAGEMENTS, DISCHARGES, ETC.

Engagements—	
Engaged constables (three years)	111
" special constables	52
Re-engaged after leaving	24
Deserters rejoined	1
Total increase	188
Discharges through death, expiration of service, invalided, etc.	261
Total decrease for the year 1923	73

Died—
Reg. No. 3775 Sergeant Harper, C.S.
" " 5045 Corporal Hunter, T.
" " 7765 Constable Bowden, F.

Pensioned—
Reg. No. 3238 Staff-Sergeant McLeod, R. W.
" " 714 Sergeant Littlefield, F.
" " 1073 Constable Helmer, C. E.

OFFICERS

Promoted Commissioner—
Assistant Commissioner C. Starnes.
Promoted Assistant Commissioner—
Superintendent G. S. Worsley.
Promoted Inspector—
Reg. No. 4092 Staff-Sergeant Munday, W.

Retired to Pension—
Commissioner A. B. Perry, C.M.G.
Superintendent R. E. Tucker.
Inspector F. A. Gordon.

Died—
Inspector W. J. Beyts.
Inspector C. Prime.

Resigned—
Inspector M. M. Sinclair.

Dismissed—
Inspector W. C. Proby.

The retirement to pension of Commissioner A. Bowen Perry, C.M.G., brings to a conclusion a career of great distinction in the Royal Canadian Mounted Police. A graduate of the Royal Military College, and a former officer in the Royal Engineers, Major-General Perry entered the force in 1882, was promoted superintendent in 1885, and became commissioner in 1900. When he went on leave pending retirement on April 1, 1922, he had completed forty years of active work in the police.

HEALTH

The reports of the principal and other medical officers show that the general health has been satisfactory, and the sanitary condition of the barracks good.

It is with great regret that I record the death of two officers and three other ranks.

Inspector Beyts was a sterling officer, of long experience in the police. He was in command of the Haileybury detachment, and at the time of the calamitous fire which destroyed that place in November, 1922, he was of great service in alleviating the distress of persons rendered homeless. An attack of pneumonia followed his exertions upon this occasion, and proved fatal.

Inspector Prime was a brilliant and promising officer, whose untimely end is greatly deplored.

HORSES

Assistant Veterinary Surgeon J. F. Littlehales reports that the health of the horses in the various divisions has been good. The shoeing reports have been satisfactory. There have been no cases of contagious disease. A number of horses have been pastured at Battleford. The casualties among the horses have been:—

Cast and sold	95
Died	16
Lost	2
	113

TRANSPORT

Our motor transport is in good repair. The motorcycles, except in cities, have proved costly to repair, and not altogether satisfactory. I propose to replace them gradually with Ford cars.

BUILDINGS

The post at Aklavik probably will be completed in the coming year. I am including in my estimates a sum to construct small buildings for the detachments at Fort Providence, Fort Rae, and Fort Good Hope.

I hope that it will be possible soon to erect buildings at Ottawa. The men quartered at Lansdowne Park are very uncomfortable, especially in winter. To add to the inconvenience, it is necessary every year to vacate the buildings in the late summer to make way for the Central Canada Exhibition; the partitions, fittings, etc., must be torn down, and on our return to the quarters have to be replaced. Added to the rent, these constant alterations make these quarters expensive, so that the provision of permanent buildings would be an eventual economy.

CLOTHING

The supply and quality of clothing has been satisfactory.

FORAGE

The supply has been satisfactory and the quality good.

ANNIVERSARY OF THE FOUNDING OF THE FORCE

The Northwest Mounted Police came into existence in September, 1873, so that this force in the year which has just come to an end has completed its half century. The anniversary was celebrated at Fort Saskatchewan, one of the oldest posts of the force, on September 13, 1923, members of K Division (Northern Alberta) meeting with many veterans of the force for the purpose of commemoration.

I have the honour to be, sir,
Your obedient servant,
CORTLANDT STARNES,
Commissioner.

APPENDIX A

STRENGTH AND DISTRIBUTION

DISTRIBUTION—State of the Force, September 30, 1923

Place	Commissioner	Asst. Commissioners	Superintendents	Inspectors	Surgeons	Asst. Vet'y Surgeon	Staff-Sergeants	Sergeants	Corporals	Constables	Special Constables	Total	Saddle Horses	Team	Ponies	Total	Dogs
Maritime Provinces—																	
Halifax	....	....	....	1	....	....	1	2	3	23	1	31	....	....	....	....	....
On command	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	....
Totals	....	....	....	1	....	....	1	3	3	23	1	32	....	....	....	....	....
Quebec District—																	
Montreal	....	....	....	1	....	....	1	3	7	13	....	25	....	....	....	....	....
Quebec	....	....	....	....	....	....	....	1	....	1	....	2	....	....	....	....	....
Totals	....	....	....	1	....	....	1	4	7	14	....	27	....	....	....	....	....
Eastern Ontario—																	
Headquarters Staff	1	1	2	2	1	....	9	10	11	18	14	69	....	....	....	....	....
On leave	....	....	....	....	....	....	....	2	....	1	....	3	....	....	....	....	....
"A" Division—																	
Ottawa	....	....	1	2	....	....	1	13	14	142	11	184	....	....	....	....	....
Amos	....	....	....	....	....	....	....	....	....	2	....	2	....	....	....	....	8
On command	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....
On leave	....	....	....	....	....	....	1	1	....	9	1	12	....	....	....	....	....
"N" Division—																	
Ottawa	....	....	....	2	....	....	3	5	3	30	3	46	29	2	....	31	....
On command	....	....	....	....	....	....	....	....	2	10	....	12	....	....	....	....	....
Headquarters Division																	
Ellesmere Island	....	....	....	1	....	....	....	....	2	6	....	9	....	....	....	....	....
Ponds Inlet	....	....	....	....	....	....	1	....	1	2	....	4	....	....	....	....	....
Port Burwell	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	....
	1	1	3	7	1	....	15	32	33	221	29	343	29	2	....	31	8
Western Ontario—																	
"O" Division—																	
Toronto	....	....	1	....	....	....	1	2	2	11	....	17	....	....	....	....	....
Haileybury	....	....	....	....	....	....	....	2	1	1	....	4	....	2	....	2	....
Sault Ste. Marie	....	....	....	....	....	....	1	....	....	1	....	2	....	....	....	....	....
Niagara Falls	....	....	....	....	....	....	1	....	....	1	....	2	....	....	....	....	....
Bridgeburg	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....
Windsor	....	....	....	....	....	....	....	1	....	2	....	3	....	....	....	....	....
Sarnia	....	....	....	....	....	....	....	....	....	2	....	2	....	....	....	....	....
Hamilton	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....	....
Brantford	....	....	....	....	....	....	....	1	....	2	....	3	5	....	....	5	....
On leave	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....
On command	....	....	....	....	....	....	....	....	....	1	....	1	2	....	....	2	....
Totals	....	....	1	....	....	....	3	6	4	23	....	37	7	2	....	9	....

STRENGTH AND DISTRIBUTION—*Continued*

DISTRIBUTION—State of the Force, September 30—*Continued.*

Place	Commissioner	Asst. Commissioners	Superintendents	Inspectors	Surgeons	Asst. Vet'y Surgeon	Staff-Sergeants	Sergeants	Corporals	Constables	Special Constables	Total	Saddle horses	Team	Ponies	Total	Dogs
Manitoba—																	
"D" Division—																	
Winnipeg			1	3			2	2	5	20	1	34	6			6	
Brandon								1		2		3	3			3	
Dauphin							1			4		5	4			4	
Emerson									1	1		2	2			2	
Fort Francis									1	2		3	1			1	6
Fort William				1				1		17	1	20	20	2		22	
Gypsumville									1			1	1			1	
Gretna									1			1	1			1	
Hodgson								1		1		2	2			2	
Kenora									1	1		2					5
Killarney								1				1	1			1	
Lac du Bonnet									1			1	1			1	
Nipigon										1		1					
Norway House									1	1		2					8
Shoal Lake								1		2		3	3			3	
Snowflake									1			1	1			1	
Waskada									1			1	1			1	
On leave									1			1					
On command								1				1					
Totals			1	4			3	8	15	52	2	85	47	2		49	19
Southern Saskatchewan—																	
Depot Division—																	
Regina			3	5	1	1	6	18	17	114	9	174	77	9		86	
Balcarres									1			1	1			1	
Big Muddy									1	1		2	3			3	
Broadview								1				1	1				
Carlisle								1				1	1			1	
Estevan								1		1		2	2			2	
Fort Qu'Appelle									1			1	1			1	
Kamsack								1		1		2	2			2	
Maple Creek									1	1		2	3			3	
Melville									1			1	1			1	
Moose Jaw									1	1		2	1			1	
Northgate									1			1	1			1	
North Portal									1	1		2	1			1	
Punichy										2		2	1			1	
Swift Current								1	1			2	2			2	
Shaunavon									1	2		3	2			2	
Weyburn				1				1	1	2		5	2			2	
Yorkton								1	1	1		3	2			2	
On command								1	1			2	73	3		76	*
On leave								1	1	3		5					
Totals			3	6	1	1	6	27	31	130	9	214	177	12		189	
Northern Saskatchewan—																	
"F" Division—																	
Prince Albert			1	1			1	3	4	9	2	21	8	5		13	
Saskatoon								2	1	1		4					
Battleford							2			3	1	6	2	5		7	
Duck Lake										1		1	1			1	
Humboldt								1		1		2	1			1	
The Pas								1				1					5
Onion Lake									1	1		2	1	2		3	

*(Horses in pasture at Battleford).

STRENGTH AND DISTRIBUTION—*Continued*

DISTRIBUTION—State of the Force, September 30—*Continued.*

Place	Commissioner	Asst. Commissioners	Superintendents	Inspectors	Surgeons	Asst. Vet'y Surgeon	Staff-Sergeants	Sergeants	Corporals	Constables	Special Constables	Total	Saddle horses	Team	Ponies	Total	Dogs
Northern Saskatchewan—Concluded																	
"F" Division—*Con*																	
Meadow Lake	....	....	....	....	....	....	....	....	1	1	....	2	2	....	....	2	....
Port Nelson	....	....	....	....	....	....	....	1	....	2	....	3	....	....	....	....	8
Chesterfield	....	....	....	1	....	....	....	....	1	2	....	4	....	....	....	....	12
On command	....	....	....	1	....	....	....	....	....	2	....	3	....	....	....	....	....
Totals	....	....	1	3	....	....	3	8	8	23	3	49	15	12	....	27	25
Southern Alberta—																	
"K" Division—																	
Lethbridge	....	....	1	2	....	....	2	4	7	22	4	42	14	3	....	17	....
Banff	....	....	....	1	....	....	....	1	2	6	1	11	5	....	....	5	....
Big Bend	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....	1	....
Blairmore	....	....	....	....	....	....	....	....	1	1	....	2	2	....	....	2	....
Calgary	....	....	....	1	....	....	1	1	1	7	2	13	2	2	....	4	....
Canmore	....	....	....	....	....	....	....	....	1	1	....	2	2	....	....	2	....
Coutts	....	....	....	....	....	....	....	....	1	1	....	2	2	....	....	2	....
Cranbrook	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....	1	....
Creston	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....	1	....
Drumheller	....	....	....	....	....	....	....	....	1	1	....	2	2	....	....	2	....
Exshaw	....	....	....	....	....	....	....	....	....	1	....	1	1	....	....	1	....
Fernie	....	....	....	1	....	....	....	1	....	4	....	6	3	....	....	3	....
Field	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....	1	....
Gleichen	....	....	....	....	....	....	....	....	1	1	1	3	1	....	....	1	....
Kingsgate	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....	1	....
Macleod	....	....	....	....	....	....	1	....	....	1	....	2	1	1	....	2	....
Medicine Hat	....	....	....	....	....	....	....	1	....	....	....	1	1	....	....	1	....
Morley	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....	1	....
Michel	....	....	....	....	....	....	....	....	....	1	....	1	1	....	....	1	....
Newgate	....	....	....	....	....	....	....	1	....	1	....	2	2	....	....	2	....
Pincher Creek	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....	1	....
Radium Hot Springs	....	....	....	....	....	....	....	....	....	1	....	1	1	....	....	1	....
Stand-Off	....	....	....	....	....	....	....	1	....	1	2	4	3	1	....	4	....
On command	....	....	....	....	....	....	....	....	....	....	....	....	38	13	....	51	*
On leave	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....	....
Totals	....	....	1	5	....	....	4	10	23	50	10	103	88	20	....	108	....
Northern Alberta—																	
"G" Division—																	
Edmonton	....	....	1	1	....	....	2	4	2	12	4	26	8	2	....	10	....
Peace River	....	....	....	1	....	....	....	1	....	6	1	9	7	....	....	7	....
Grouard	....	....	....	....	....	....	....	....	1	....	....	1	2	....	....	2	....
Fitzgerald	....	....	....	1	....	....	....	....	1	2	2	6	1	....	1	2	11
Fort Smith	....	....	....	....	....	....	....	....	1	1	....	2	....	....	....	....	4
Resolution	....	....	....	....	....	....	....	....	1	1	1	3	....	....	....	....	5
Simpson	....	....	....	....	....	....	....	....	....	2	1	3	....	....	....	....	5
Norman	....	....	....	....	....	....	....	....	1	1	....	2	....	....	....	....	5
Chipewyan	....	....	....	....	....	....	....	....	1	1	....	2	....	....	....	....	5
Herschel	....	....	....	1	....	....	....	....	1	2	....	4	....	....	....	....	4
Tree River	....	....	....	....	....	....	....	....	1	2	....	3	....	....	....	....	10
Aklavik	....	....	....	....	....	....	....	1	....	3	....	4	....	....	....	....	12
Jasper	....	....	....	....	....	....	....	1	....	....	....	1	1	....	....	1	....
Bruel	....	....	....	....	....	....	....	....	1	1	....	2	....	....	....	....	....
Athabaska	....	....	....	....	....	....	....	....	1	....	....	1	2	....	....	2	....
Nordegg	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....	....

*(On pasture at Big Bend).

STRENGTH AND DISTRIBUTION—*Continued*

DISTRIBUTION—State of the Force, September 30—*Concluded.*

Place.	Commissioner	Asst. Commissioner	Superintendents	Inspectors	Surgeons	Asst. Vet'y Surgeon	Staff-Sergeants	Sergeants	Corporals	Constables	Special Constables	Total	Saddle Horses	Team	Ponies	Total	Dogs
Northern Alberta—Con.																	
"G" Division—*Con.*																	
Fort McMurray								1				1					
On command				1			1		1	3		6	9	2		11	
On leave							1	3		6		10					
Totals			1	5			4	11	14	42	10	87	30	4	1	35	61
British Columbia—																	
"E" Division—																	
Vancouver		1		4			3	8	12	44	10	82	60	4		64	
Victoria							1	1	2	4		8					
Cumberland									1	1		2	2			2	
Esquimalt							1		1	8	2	12					
Nanaimo								1		1		2	1			1	
Grand Forks				1			1		2	1		5	4			4	
Penticton									1	1		2	4			4	
Vernon								1				1	3			3	
Prince Rupert				1			1	1	1			4					
Prince George								1		1		3	3			3	
Telkwa									1	2		3	3			3	
Alert Bay								1		1		2					
On command													1			1	
On leave									1	1		2					
Totals		1		6			7	14	22	66	12	128	81	4		85	
Yukon Territory—																	
"B" Division—																	
Dawson				2			2	1	1	8	2	16		4		4	1
Carmacks										1		1					4
Carcross										1		1					
Dawson Town Station								1		2		3					
Forty Mile									1			1					
Grandville										1		1		1		1	
Mayo							1			1		2		3		3	
Keno									1	1		2					
Rampart House										2		2					4
Ross River									1			1					3
Teslin									1			1					3
Whitehorse				1			1		2	5	1	10		2		2	
White Pass Summit										1		1					
Moosehide											1	1					
Totals				3			4	2	7	23	4	43		10		10	15

RECAPITULATION

Maritime Provinces				1			1	3	3	23	1	32					
Quebec District				1			1	4	7	14		27					
Eastern Ontario	1	1	3	7	1		15	32	33	221	29	343	29	2		31	8
Western Ontario			1				3	6	4	23		37	7	2		9	
Manitoba			1	4			3	8	15	52	2	85	47	2		49	19
Southern Saskatchewan			3	6	1	1	6	27	31	130	9	214	177	12		189	
Northern Saskatchewan			1	3			3	8	8	23	3	48	15	12		27	25
Southern Alberta			1	5			4	10	23	50	10	103	88	20		108	
Northern Alberta			1	5			4	11	14	42	10	87	30	4	1	35	61
British Columbia		1		6			7	14	22	66	12	128	81	4		85	
Yukon Territory				3			4	2	7	23	4	43		10		10	15
Totals	1	2	11	41	2	1	51	125	167	667	80	1,148	474	68	1	543	128

APPENDIX B

CLASSIFIED SUMMARY of Cases Investigated and Convictions made under Federal Statutes from October 1, 1922, to September 30, 1923.

British Columbia	Cases investigated	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to Department concerned	Still under investigation	No prosecution entered	Total
Offences against—								
Narcotic Drug Act	834	175	46	3	9	4	597	834
Customs Act	32	3			26		3	32
Explosives Act	17	4			12	1		17
Immigration Act	289	10			78	45	156	289
Indian Act	162	103	31	1	6	3	18	162
Inland Revenue Act	55	10	3		3		39	55
Fisheries Act	1				1			1
Militia Act	9						9	9
Naval Discipline Act	2				1		1	2
Live Stock Pedigree Act	2	1			1			2
Naturalization Act	3						3	3
Post Office Act	5				2		3	5
Migratory Birds Act	5	3	1				1	5
Ticket of Leave Act	23				5		18	23
Secret Commissions Act	2		2					2
Soldiers Settlement Board Act	1		1					1
Special War Revenue Act	1						1	1
Air Board Act	2						2	2
Railway Act	340	319	21					340
Canada Temperance Act	1	1						1
	1,786	629	105	4	144	53	851	1,786

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CLASSIFIED SUMMARY of Cases Entered and Convictions made under the Criminal Code from October 1, 1922, to September 30, 1923.

British Columbia	Cases entered	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to Department concerned	Still under investigation	No prosecution entered	Total
Under Criminal Code—								
Murder	1				1			1
Common assault	4	3				1		4
Assaulting police officer	2	2						2
Abduction	2	1	1					2
Seduction	1				1			1
Intimidation	1				1			1
Robbery with violence	1		1					1
Concealment of birth	1				1			1
Forgery	5		2	1	2			5
Breaking and entering	9	3		1	4		1	9
Robbery	2	2						2
Burglary	8	6	2					8
Theft	19	5	3		9		2	19
Fraud	6		2	1	1	1	1	6
Conspiracy to defraud	6				6			6
False pretences	1		1					1
Mischief	1	1						1
Issuing worthless cheque	1		1					1
Absconding debtor	1						1	1
Carrying concealed weapons	1	1						1
Aliens in possession fire arms	8	3			5			8
Creating disturbance	1	1						1
Vagrancy	6	5	1					6
Cruelty to animals	1	1						1
Impersonating police officer	1				1			1
Obstructing police officer	2	1		1				2
Fraudulent use of mails	1				1			1
Resisting arrest	1	1						1
	94	36	14	4	33	2	5	94

CLASSIFIED SUMMARY of Provincial Statutes and Dominion Parks Regulations Enforced from October 1, 1922, to September 30, 1923.

British Columbia	Cases entered	Convictions	Handed over to Department concerned	No prosecutions entered	Total
Provincial Staiutes—					
British Columbia Liquor Act	9	4	5		9
British Columbia Mines Act	5		5		5
British Columbia Game Act	5	2	2	1	5
British Columbia Health Act	1		1		1
British Columbia Mental Hospital Act	1	1			1
British Columbia Taxation Act	1		1		1
British Columbia Election Act	2		2		2
Dominion Parks Regulations—					
Motor vehicles	1	1			1
Miscellaneous	2	2			2
	27	10	16	1	27

SUMMARY of Investigations made for other Departments, other than Breaches of the Federal Statutes, from October 1, 1922, to September 30, 1923.

British Columbia	
Department of Immigration	20
Department of Mines	481
Department of Indian Affairs	36
Post Office Department	16
Department of Secretary of State	12
Department of Secretary of State (Naturalization Branch)	171
Department of Marine and Fisheries	429
Department of Soldiers' Civil Re-establishment	5
Department of National Defence	5
Department of Public Works	1
Department of Justice	9
Department of Customs and Excise	5
Department of the Interior	2
Department of Agriculture	6
Miscellaneous—	
Inquiries for missing persons	70
Inquiries on behalf of other police forces	75
Investigations not classified	4
Total	1,357

CLASSIFIED SUMMARY of Cases Investigated and Convictions made under Federal Statutes from October 1, 1922, to September 30, 1923.

Alberta	Cases investigated	Convictions	Dismissed or withdrawn	Handed over to Department concerned	Still under investigation	No prosecution entered	Total
Offences against—							
Railway Act	39	37	2				39
Fisheries Act	1	1					1
Alien Labour Act	1					1	1
Animals Contagious Disease Act	2	1				1	2
Bankruptcy Act	1					1	1
Immigration Act	39	15		20	1	3	39
Chinese Immigration Act	1					1	1
Customs Act	11	2		8		1	11
Explosives Act	29	1		2	6	20	29
Indian Act	91	67	5	2		17	91
Inland Revenue Act	175	48	4	2	10	111	175
Opium and Narcotic Drug Act	99	26	8	2	5	58	99
Militia Act	1	1					1
Post Office Act	10	6	2		1	1	10
Ticket of Leave Act	11			2		9	11
Fugitive Offenders Act	1					1	1
Migratory Birds Convention Act	2	1				1	2
Naturalization Act	3			1		2	3
Air Board Act	1			1			1
	518	206	21	40	23	228	518

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CLASSIFIED SUMMARY of Cases Entered and Convictions made under the Criminal Code from October 1, 1922, to September 30, 1923.

Alberta	Cases entered	Convictions	Dismissed or withdrawn	Awaiting trial	Still under investigation	No prosecution entered	Total
Under Criminal code—							
Murder	2	.....	.....	1	.....	1	2
Manslaughter	1	.....	.....	1	.....	.....	1
Burglary	6	1	.....	.....	3	2	6
Theft from H. M's mails	14	4	2	.....	1	7	14
Theft	34	22	1	.....	1	10	34
Theft from person	1	.....	1	.....	.....	1	1
False pretences	3	2	.....	.....	.....	.....	3
Beating board bill	3	2	1	.....	.....	.....	3
Prostitution Indian woman	3	3	.....	.....	.....	.....	3
Common assault	22	20	2	.....	.....	.....	22
Assaulting police officer	1	1	.....	.....	.....	.....	1
Bribing police officer	2	1	.....	1	.....	.....	2
Indecent assault	1	.....	1	.....	.....	.....	1
Carnal knowledge	1	.....	.....	.....	1	.....	1
Unlawfully wearing military uniform	1	.....	.....	.....	.....	1	1
Carrying concealed weapon	2	2	.....	.....	.....	.....	2
In possession offensive weapon	2	2	.....	.....	.....	.....	2
Obstructing police officer	3	3	.....	.....	.....	.....	3
Indecent matter in mail	3	.....	.....	.....	.....	3	3
Perjury	1	.....	1	.....	.....	.....	1
Creating a disturbance	32	32	.....	.....	.....	.....	32
Drunk and disorderly	16	16	.....	.....	.....	.....	16
Vagrancy	7	7	.....	.....	.....	.....	7
Publishing defamatory libel	1	.....	.....	1	.....	.....	1
Wife desertion	1	.....	1	.....	.....	.....	1
Cruelty to animals	1	.....	.....	.....	.....	1	1
Fraud	7	1	6	.....	.....	.....	7
Cattle killing	1	.....	1	.....	.....	.....	1
Mischief	2	2	.....	.....	.....	.....	2
Damage to property	1	1	.....	.....	.....	.....	1
Conspiracy to defraud	1	.....	1	.....	.....	.....	1
Driving motor intoxicated	1	1	.....	.....	.....	.....	1
	177	123	18	4	6	26	177

Classified Summary of Provincial Statutes and Dominion Parks Regulations Enforced from October 1, 1922, to September 30, 1923.

Alberta	Cases investigated	Convictions	Dismissed or withdrawn	Handed over to Dept. concerned	No prosecution entered	Total
Provincial Statutes—						
Alberta Liquor Act	50	44	3	2	1	50
Master and Servants Act	3	1	2			3
Insanity Act	1		1			1
Stock Inspection Act	2	1	1			2
Public Health Act	1	1				1
Insurance Act	2				2	2
Prairie Fire Act	1	1				1
Game Act	5	1			4	5
Mines Act	6	6				6
Boilers Act	1				1	1
Dominion Parks Regulations—						
Motor vehicles	41	39	2			41
Concealed weapons	8	8				8
Gambling	47	47				47
Nuisance	3	1	2			3
Furious riding	1		1			1
Setting out fire	2	1	1			2
Stray animals	2	2				2
Game regulations	15	6	9			15
Miscellaneous	29	29				29
	220	188	22	2	8	220

Summary of Investigations made for other Departments, other than Breaches of the Federal Statutes, from October 1, 1922, to September 30, 1923.

Alberta	
Department of National Defence	22
Department of External Affairs	1
Department of the Interior	167
Department of Immigration	38
Department of Indian Affairs	69
Department of Justice	19
Department of Marine and Fisheries	100
Post Office Department	10
Department of Secretary of State	3
Department of Secretary of State (Naturalization Branch)	327
Department of Soldiers' Civil Re-establishment	6
Department of Finance	2
Department of Soldiers' Settlement Board	2
Department of Mines	4
Miscellaneous—	
Inquiries for missing persons	134
Inquiries from other police forces	16
Accidental deaths	13
Investigations for Provincial Authorities	11
Inquiries not classified	19
	963

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CLASSIFIED SUMMARY of Cases Investigated and Convictions made under Federal Statutes from October 1, 1922, to September 30, 1923.

Saskatchewan	Cases investigated	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to Department concerned	Still under investigation	No prosecution entered	Total
Offences against—								
Customs Act	110	16			88	5	1	110
Inland Revenue Act	1,302	401	43	22	6	61	769	1,302
Animal Contagious Disease Act	30	12			2		16	30
Indian Act	124	88	10		8	2	16	124
Immigration Act	112	36	2		49	1	24	112
Opium and Narcotic Drug Act	91	18	1		19	4	49	91
Migratory Birds Convention Act	5	4			1			5
Income Tax Act	30	25	2		3			30
Explosives Act	55	7			33		15	55
Bankruptcy Act	1		1					1
Railway Act	6	6						6
Fisheries Act	49	38	2				9	49
Post Office Act	19	2		1	7	5	4	19
Militia Act	30	2			18	4	6	30
War Measures Act	3			1	2			3
Dominion Forest Reserves and Parks Act	4	4						4
Dominion Lands Act	43	17			26			43
Seed Control Act	1	1						1
	2,015	677	61	24	262	82	909	2,015

CLASSIFIED SUMMARY of Cases Entered and Convictions made under the Criminal Code from October 1, 1922, to September 30, 1923.

Saskatchewan	Cases investigated	Convictions	Dismissed or withdrawn	Handed over to Department concerned	Still under investigation	No prosecutions entered	Total
Under Criminal Code—							
Theft	5	2	1	1		1	5
Possession of stolen property	1	1					1
Common assault	6	6					6
Obstructing peace officer	15	11	4				15
Concealed weapons	4	4					4
Alien in possession firearms	1	1					1
Escaping custody	2		2				2
Vagrancy	1	1					1
Pointing firearms	1	1					1
Attempted rape	1		1				1
Aggravated assault	1		1				1
Fraud	1					1	1
Burglary	2				1	1	2
Mischief	1			1			1
Unlawfully wearing H. M's. uniform	1			1			1
	43	27	9	3	1	3	43

SUMMARY of Investigations made for other Departments, other than Breaches of the Federal Statutes, from October 1, 1922, to September 30, 1923.

Saskatchewan	—
Department of Finance	2
Department of Soldiers' Settlement Board	3
Department of Soldiers' Civil Re-establishment	1
Department of Customs and Excise	4
Department of Immigration	121
Department of Agriculture	2
Department of Justice	4
Department of Mines	9
Department of National Defence	30
Department of Indian Affairs	56
Department of Secretary of State	6
Department of Secretary of State (Naturalization Branch)	361
Post Office Department	5
Department of the Interior	148
Department of Marine and Fisheries	159
Miscellaneous—	
Inquiries for missing persons	143
Deceased persons' estates	2
Inquiries on behalf of other police forces	19
Cases handled in absence of provincial police	5
Inquiries for other countries	4
Accidental deaths	2
Total	1,086

CLASSIFIED SUMMARY of Cases Investigated and Convictions made under Federal Statutes from October 1, 1922, to September 30, 1923.

Manitoba	Cases investigated	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to Department concerned	Still under investigation	No prosecution entered	Total
Offences against—								
Chinese Immigration Act	9				9			9
Customs Act	10	3			4		3	10
Explosives Act	186	7				1	178	186
Fisheries Act	14	10		1	3			14
Forest Reserve Regulations	8	6	2					8
Immigration Act	12	2			7	3		12
Indian Act	103	67	9		3	3	21	103
Inland Revenue Act	526	153	25	3		21	324	526
Migratory Birds Act	1						1	1
Naval Act	1					1		1
Navigable Waters Protection Act	1						1	1
Opium and Narcotic Drug Act	243	7	5	1		2	228	243
Pensions Act	1						1	1
Radio Telegraph Act	3						3	3
Ticket of Leave Act	21				1		20	21
Miscellaneous	1						1	1
	1,140	255	41	5	27	31	781	1,140

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CLASSIFIED SUMMARY of Cases Entered and Convictions made under the Criminal Code from October 1, 1922, to September 30, 1923.

Manitoba	Cases investigated	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to Department concerned	Still under investigation	No prosecution entered	Total
Under Criminal Code—								
Assault	5	4	.....	.....	.....	.....	1	5
Escaping lawful custody	1	1	.....	.....	.....	.....	.....	1
Obstruction of police officer	5	3	.....	.....	.....	.....	2	5
Possession of firearms	1	1	.....	.....	.....	.....	.....	1
Theft	29	5	1	1	5	5	12	29
	41	14	1	1	5	5	15	41

CLASSIFIED SUMMARY of Cases Investigated and Convictions made under Provincial Statutes from October 1, 1922, to September 30, 1923.

Manitoba	Cases investigated	Convictions	Handed over to Dept. concerned	Total
Under Provincial Statutes—				
Manitoba Game Act	2	1	1	2
Manitoba Temperance Act	1	.....	1	1
	3	1	2	3

SUMMARY of Investigations made for other Departments, other than Breaches of the Federal Statutes, from October 1, 1922, to September 30, 1923.

Manitoba	
Department of Customs	226
Department of Immigration	89
Department of Indian Affairs	6
Department of the Interior	156
Department of Justice	3
Department of National Defence	11
Post Office Department	1
Department of Secretary of State	1
Department of Secretary of State (Naturalization Branch)	882
Department of Marine and Fisheries	6
Department of Soldiers' Civil Re-establishment	1
Miscellaneous—	
Inquiries for missing persons	64
Inquiries for other police forces	69
Investigations not classified	4
Total	1,519

CLASSIFIED SUMMARY of Cases Investigated and Convictions made under Federal Statutes from October 1, 1922, to September 30, 1923.

Ontario	Cases investigated	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to department concerned	Still under investigation.	No prosecution entered.	Total
Offences against—								
Customs Act	66	7	.....	.....	18	3	38	66
Explosives Act	82	2	.....	.....	2	2	76	82
Fugitive Offenders Act	1	.....	.....	.....	.....	.....	1	1
Immigration Act	4	.....	.....	.....	1	2	1	4
Income Tax Act	5	3	.....	.....	1	.....	1	5
Indian Act	97	41	10	.....	3	.....	43	97
Inland Revenue Act	165	48	12	.....	14	1	90	165
Migratory Birds Convention Act	18	6	1	.....	4	.....	7	18
Naturalization Act	1	.....	.....	.....	.....	1	.....	1
Naval Act	2	.....	.....	.....	.....	2	.....	2
Opium and Narcotic Drug Act	206	54	20	1	5	18	108	206
Soldiers Settlement Act	5	1	.....	.....	.....	1	3	5
Ticket of Leave Act	14	.....	1	.....	9	.....	4	14
Militia Act	2	.....	.....	.....	.....	.....	2	2
Radio Telegraph Act	4	.....	.....	.....	.....	.....	4	4
	672	162	44	1	57	30	378	672

SESSIONAL PAPER No. 21

CLASSIFIED SUMMARY of Cases Entered and Convictions made under the Criminal Code from October 1, 1922, to September 30, 1923.

Ontario	Cases entered	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to department concerned	Still under investigation	No prosecution entered	Total
Under Criminal Code—								
Murder	1						1	1
Common assault	4	3			1			4
Assault causing bodily harm	2				2			2
Assaulting peace officer	1	1						1
Rape	1			1				1
Accessory after the fact	1				1			1
Arson	1	1						1
Breaking and entering	8	5	2				1	8
Common nuisance	1	1						1
Conspiracy to defraud	13				13			13
Conspiracy to bring forth accusation	1		1					1
Cruelty to children	1		1					1
Counterfeiting	3					1	2	3
Defamatory libel	1						1	1
Desertion	3				1		2	3
Disobeying summons	1						1	1
Escaping lawful custody	19	3			5	6	5	19
False pretences	6	1	1		2		2	6
Falsely representing police officer	1		1					1
Forgery	9	2			1		6	9
Possession of public stores	5	1					4	5
Gross indecency	2	2						2
Disorderly conduct	1	1						1
Mischief	3	1				2		3
Possession of firearms	4	4						4
Neglect to provide	1		1					1
Non-support	6		1		1		4	6
Obscene mail matter	3	1	1				1	3
Obstructing peace officer	2	2						2
Offensive weapons	6				5		1	6
Receiving stolen mail matter	2			2				2
Seduction	1						1	1
Shop-breaking	1						1	1
Theft	135	27	7		7	3	91	135
Threatening letters	2						2	2
Unlawfully wearing military uniform	4	2					2	4
Vagrancy	1	1						1
Wife desertion	1						1	1
Kidnapping	2					2		2
Attempted train wrecking	6		6					6
	266	59	22	3	39	14	129	266

CLASSIFIED SUMMARY of Provincial Statutes and Dominion Parks Regulations Enforced from October 1, 1922, to September 30, 1923.

Ontario	Cases entered	Convictions	Dismissed or withdrawn	Handed over to Dept. concerned	No prosecution entered	Total
Provincial Statutes—						
Ontario Temperance Act	2	2				2
Trespass	6		6			6
Dominion Parks Regulations—						
Game	13	2		6	5	13
	21	4	6	6	5	21

SUMMARY of Investigations made for other Departments, other than Breaches of the Federal Statutes, from October 1, 1922, to September 30, 1923.

Ontario	—
Department of Agriculture	2
Department of Health	38
Department of Immigration	2
Department of Indian Affairs	10
Department of the Interior	5
Department of Justice	17
Department of National Defence	43
Department of Mines	8
Post Office Department	5
Department of Secretary of State	20
Department of Secretary of State (Naturalization Branch)	1,595
Department of External Affairs	5
Department of Public Works	8
Department of Soldiers' Civil Re-establishment	2
Department of Railways and Canals	1
Department of Marine and Fisheries	1
Governor General's Office	1
Auditor General's Office	1
Royal Mint	1
Department of Customs and Excise	6
Miscellaneous—	
Inquiries for missing persons	111
Inquiries for other police forces	25
Inquiries not classified	47
Total	1,954

SESSIONAL PAPER No. 21

CLASSIFIED SUMMARY of Cases Investigated and Convictions made under Federal Statutes from October 1, 1922, to September 30, 1923.

Quebec	Cases investigated	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to Department concerned	Still under investigation	No prosecution entered	Total
Offences against—								
Inland Revenue Act	43	11	.....	2	9	2	19	43
Indian Act	70	46	4	.....	1	4	15	70
Opium and Narcotic Drug Act	658	208	49	49	1	28	323	658
Explosives Act	12	.....	.....	.....	4	2	6	12
Migratory Birds Convention Act	11	.....	6	.....	1	.....	4	11
Customs Act	156	11	9	14	23	20	79	156
Ticket of Leave Act	37	2	.....	1	.....	4	30	37
Immigration Act	7	.....	.....	.....	1	.....	6	7
Post Office Act	15	.....	1	.....	2	.....	12	15
Penitentiaries Act	8	.....	1	.....	.....	2	5	8
Income Tax Act	1	.....	.....	.....	.....	.....	1	1
Militia Act	24	.....	.....	.....	4	5	15	24
Northwest Game Act	1	.....	.....	.....	.....	.....	1	1
Naturalization Act	2	.....	.....	.....	.....	.....	2	2
	1,045	278	70	66	46	67	518	1,045

CLASSIFIED SUMMARY of Cases Entered and Convictions made under the Criminal Code from October 1, 1922, to September 30, 1923.

Quebec	Cases entered	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to Department concerned	Still under investigation	No prosecution entered	Total
Under Criminal Code—								
Common assault	13	3	8	1	.....	.....	1	13
Theft	25	17	2	3	.....	1	2	25
Possession of firearms	15	.....	7	.....	.....	.....	8	15
Receiving stolen goods	1	1	.....	.....	.....	.....	.....	1
Carnal knowledge	1	.....	.....	.....	.....	.....	1	1
Drunk and disorderly	1	1	.....	.....	.....	.....	.....	1
Forgery and uttering	45	10	7	9	3	.....	16	45
Conspiracy	4	1	1	.....	.....	1	1	4
False pretences	2	.....	2	.....	.....	.....	.....	2
Perjury	3	.....	.....	2	.....	.....	1	3
Trespassing	1	1	.....	.....	.....	.....	.....	1
Obstructing police officer	2	.....	2	.....	.....	.....	.....	2
Inciting	1	.....	.....	1	.....	.....	.....	1
Vagrancy	2	.....	1	.....	1	.....	.....	2
Resisting arrest	1	.....	1	.....	.....	.....	.....	1
Breaking jail with force	1	.....	.....	.....	1	.....	.....	1
	118	34	31	16	5	2	30	118

SUMMARY of Investigations made for other Departments, other than Breaches of the Federal Statutes, from October 1, 1922, to September 30, 1923.

Quebec	—
Secretary of State Department	36
Secretary of State Department (Naturalization Branch)	460
Department of Customs	2
Department of External Affairs	4
Department of Immigration	1
Department of Justice	5
Department of Health	179
Department of Agriculture	2
Department of the Interior	3
Department of National Defence	2
Department of Marine and Fisheries	1
Department of Railways and Canals	2
Department of Indian Affairs	9
Department of Soldiers' Re-establishment	2
Miscellaneous—	
Inquiries for missing persons	56
Inquiries for other police forces	24
Inquiries not classified	10
Total	798

CLASSIFIED SUMMARY of Cases Investigated and Convictions made under Federal Statutes from October 1, 1922, to September 30, 1923.

Maritime Provinces	Cases investigated	Convictions	Dismissed or withdrawn	Awaiting trial	Handed over to Department concerned	Still under investigation	No prosecution entered	Total
Offences against—								
Customs Act	43	5	.....	.....	1	.....	37	43
Inland Revenue Act	36	22	.....	.....	3	1	10	36
Opium and Narcotic Drug Act	52	18	3	2	13	3	13	52
Fisheries Act	40	25	5	3	.....	.....	7	40
Ticket of Leave Act	2	.....	.....	.....	.....	.....	2	2
Explosives Act	62	2	.....	.....	44	.....	16	62
Chinese Immigration Act	1	.....	.....	.....	1	.....	.....	1
Migratory Birds Act	3	2	.....	.....	.....	.....	1	3
	239	74	8	5	62	4	86	239

CLASSIFIED SUMMARY of Cases Entered and Convictions made under the Criminal Code from October 1, 1922, to September 30, 1923.

Maritime Provinces	Cases entered	Convictions	Dismissed or withdrawn	Total
Under Criminal Code—				
Breaking and entering	9	9	.....	9
Arson	5	.....	5	5
Libel	1	.....	1	1
Uttering forged documents	1	.....	1	1
	16	9	7	16

SESSIONAL PAPER No. 21

SUMMARY of Investigations made for other Departments, other than Breaches of the Federal Statutes, from October 1, 1922, to September 30, 1923.

Maritime Provinces	—
Department of Finance	1
Department of Soldiers' Civil Re-establishment	1
Department of Customs and Excise	2
Department of Agriculture	1
Department of Justice	3
Department of External Affairs	1
Department of National Defence	15
Post Office Department	3
Department of Secretary of State	2
Department of Secretary of State (Naturalization Branch)	62
Department of the Interior	1
Department of Marine and Fisheries	5
Department of Public Works	1
Department of Immigration	1
Miscellaneous—	
Inquiries for missing persons	12
Investigations *re* commercialized vice	18
Inquiries for other police forces	3
Inquiries not classified	3
Total	135

CLASSIFIED SUMMARY of Cases Investigated and Convictions made under Federal Statutes from October 1, 1922, to September 30, 1923.

Yukon Territory	Cases investigated	Convictions	Dismissed or withdrawn	Total
Offences against—				
Indian Act	8	7	1	8
Explosives Act	1	.....	1	1
	9	7	2	9

CLASSIFIED SUMMARY of Cases Entered and Convictions made under the Criminal Code from October 1, 1922, to September 30, 1923.

Yukon Territory	Cases investigated	Convictions	Dismissed or withdrawn	Total
Under Criminal Code—				
Murder	1	.....	1	1
Assault	1	.....	1	1
Burglary	1	1	.....	1
Theft	7	1	6	7
Injury to cattle	1	.....	1	1
Vagrancy	16	14	2	16
	27	16	11	27

Classified Summary of Yukon Ordinances Enforced from October 1, 1922, to September 30, 1923.

Yukon Territory	Cases investigated	Convictions	Dismissed or withdrawn	No prosecutions entered	Total
Offences against—					
Insanity ordinance	7	6	1	.....	7
Motor ordinance	1	1	.....	.....	1
Forest fire ordinance	5	3	1	1	5
Liquor ordinance	10	9	1	.....	10
	23	19	3	1	23

Classified Summary of Investigations made for other Departments, other than Breaches of the Federal Statutes, from October 1, 1922, to September 30, 1923.

Yukon Territory	—
Inquiries for missing persons	63
Investigations not classified	2
Total	65

Classified Summary of Cases Investigated and Convictions made under Federal Statutes from October 1, 1922, to September 30, 1923.

Northwest Territories	Cases investigated	Convictions	Dismissed or withdrawn	Still under investigation	No prosecution entered	Total
Offences against—						
Indian Act	7	6	.....	1	.....	7
Northwest Territories Act	4	4	.....	.....	.....	4
Northwest Game Act	11	8	1	.....	2	11
Post Office Act	1	1	.....	.....	.....	1
	23	19	1	1	2	23

SESSIONAL PAPER No. 21

CLASSIFIED SUMMARY of Cases Entered and Convictions made under the Criminal Code from October 1, 1922, to September 30, 1923.

Northwest Territories	Cases entered	Convictions	Dismissed or withdrawn	No prosecution entered	Total
Under Criminal Code—					
Murder	7	5	2	.....	7
Manslaughter	3	2	1	.....	3
Seduction	1	.....	.....	1	1
Indecent assault	3	2	.....	1	3
Common assault	7	6	1	.....	7
Theft	3	.....	1	2	3
Vagrancy	1	1	.....	.....	1
	25	16	5	4	25

SUMMARY of Investigations made for other Departments, other than Breaches of the Federal Statutes, from October 1, 1922, to September 30, 1923.

Northwest Territories	—
Department of the Interior	10
Miscellaneous—	
Inquiries for missing persons	3
Destitutes	2
Accidental deaths	19
Suicides	2
Insanity	1
Investigations not classified	1
Total	38

Department of the Interior

HON. CHARLES STEWART, MINISTER; W. W. CORY, DEPUTY MINISTER

TOPOGRAPHICAL SURVEY OF CANADA

MAP OF

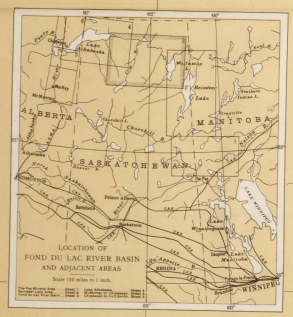
FOND DU LAC RIVER BASIN

UPPER CHURCHILL DISTRICT

PROVINCE OF SASKATCHEWAN

Scale 1:380,160 or 1 inch to 6 miles

Miles 1 0 5 10 15 20 Miles.



MAG. DEC. 29° 11' E. AT FOND DU LAC, SASK. 1924
DECREASING 9. 3 ANNUALLY

MAG. DEC. 29° 30' E. AT MANITOU FALLS, 1924
DECREASING 8. 0 ANNUALLY

MAG. DEC. 29° 07' E. AT S.I. WOLLASTON LAKE, 1924
DECREASING 8. 3 ANNUALLY

The country to the north is rough and broken, consisting of rocky hills rising to 150 feet in altitude covered by spruce, birch and poplar to four inches diameter. To the south high hills of sand and boulders rise to 200 feet in altitude covered by spruce, banksian pine, birch and poplar to 10 inches diameter. Wash brule and windfall occur on both shores.

Chipman river provides a canoe route via Dubount river to Dubount lake and from thence via Thelon river to Chesterfield Inlet.

Black lake occupies the contact zone between the Laurentian country to the north and the drift covered sedimentary rocks to the south. The north shore is rocky rising to 400 feet in altitude with scrub spruce to four inches diameter. The south shore is sandy with boulders rising to 200 feet in altitude and covered by spruce, banksian pins, poplar and birch to eight inches diameter.

Elongated narrow sand hills with few boulders rising to 150 feet in altitude, covered by spruce, banksian pine, birch and poplar to eight inches diameter. Wash brule and windfall occur along this section. The river is many places flows between overhanging banks of sandstone 15 feet high.

Moraine hills component of boulders imbedded in a matrix of red sand rising to 70 feet in altitude. Forest cover consist of second growth spruce, banksian pine and birch three inches diameter.

First appearance of poplar.

Fond du Lac river flows out of Wollaston lake over a small rapid with a bed of large granite boulders. Total drop is about three feet. Rocky hills rising to 60 feet on each side of river form a narrow valley. Banks of river are marshy with thick growth of willows to water's edge in many places.

Gree river flows through a sterile sandy plain varied by equally sterile hills of boulders exaggerated wooded with small banksian pines. Its tributaries are swift and shallow. The river provides a canoe route to Churchill river.

The coast line is indented by a number of deep irregular bays. Rough granite ridges to 200 feet in altitude extend along shore near lake with a covering of spruce, banksian pine and birch to six inches diameter. Narrow sandy ridges with a good growth of banksian pine to 10 inches occur at end of bays.

The islands in Wollaston lake are usually thickly wooded with spruce, banksian pine and birch. Many are low while others rise to altitudes of 150 feet or more. The water is a deep blue, clear and cold. Navigation is dangerous at night owing to numerous rocky and partially concealed reefs.

Rough rocky hills 60 to 200 feet high covered by spruce, banksian pine and birch to six inches diameter on the upper slopes. The depressions are swampy and covered by spruce, tamarack and willows.

Gethic river furnishes a practicable canoe route to Churchill river by way of Foster lake and Foster river. The river also provides a canoe route to Gree lake by way of Poor-fish river.

REFERENCES

P. Rock S.M. ..... Rock post and stone mound.
P.S.M. ..... Standard post and stone mound.
P.M. ..... Standard post, earth mound and three pits.

SOURCES OF INFORMATION

Along Main Waterways—
Control Surveys of Topographical Survey of Canada, 1924.
Off Main Waterways—
Exploratory Surveys of Geological Survey of Canada.

26th EDITION.

Price 25 Cents.

COMPILED, DRAWN AND PRINTED BY THE TOPOGRAPHICAL SURVEY OF CANADA, OTTAWA

Department of the Interior

HON. CHARLES STEWART, MINISTER; W. W. CORY, DEPUTY MINISTER

TOPOGRAPHICAL SURVEY OF CANADA

MAP OF

PEACE RIVER

FORT VERMILION TO LITTLE RAPIDS

ALBERTA

Scale 1:253,440 or 1 inch to 4 miles

Miles 1 0 5 10 15 Miles

REFERENCES

Gravel bars and known shoals

Steamer routes usually followed

Roads

Trails

P.M. standard post, earth mound and three pits.

TABLE OF DISTANCES

Fort Vermilion to Adams Landing	41 miles
" " Vermilion Falls	47 "
Vermilion Falls to Red River Post	5 "
Big Island	50 "
" " Little Rapids	120 "

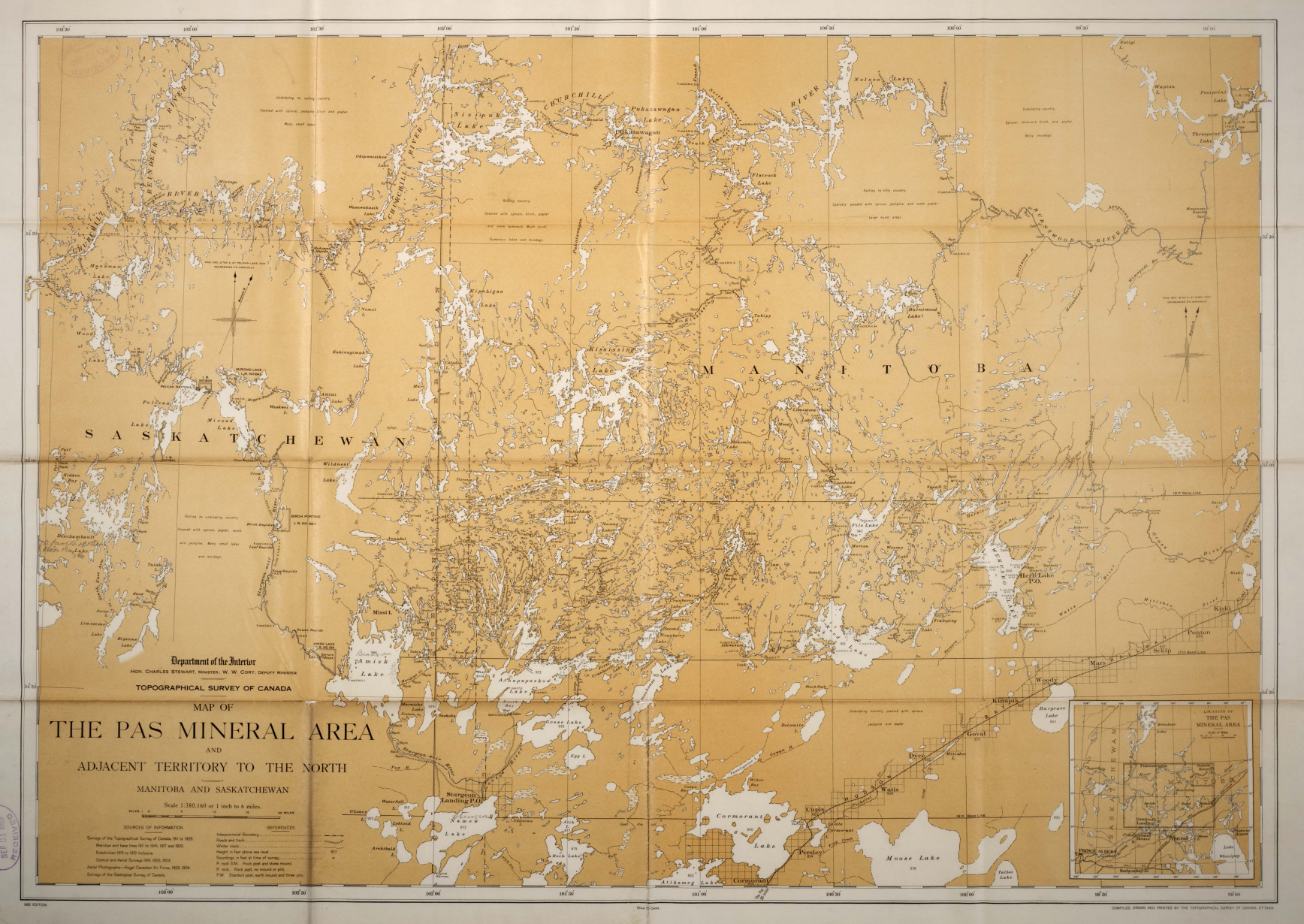
SOURCE OF INFORMATION

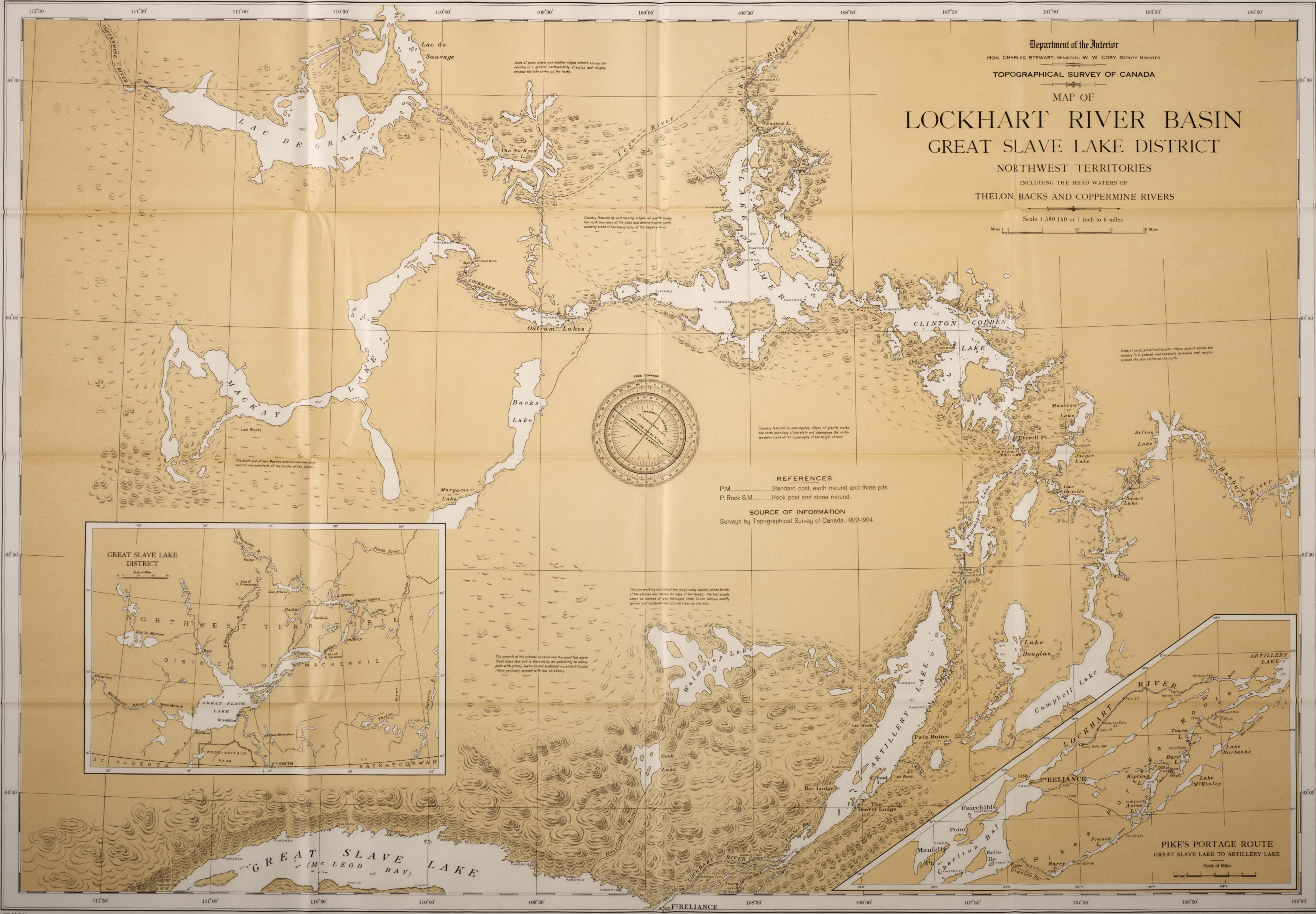
Surveys by Topographical Survey of Canada up to 1923

1924 EDITION

COMPILED, DRAWN AND PRINTED BY THE TOPOGRAPHICAL SURVEY OF CANADA, OTTAWA

Price 25 Cents

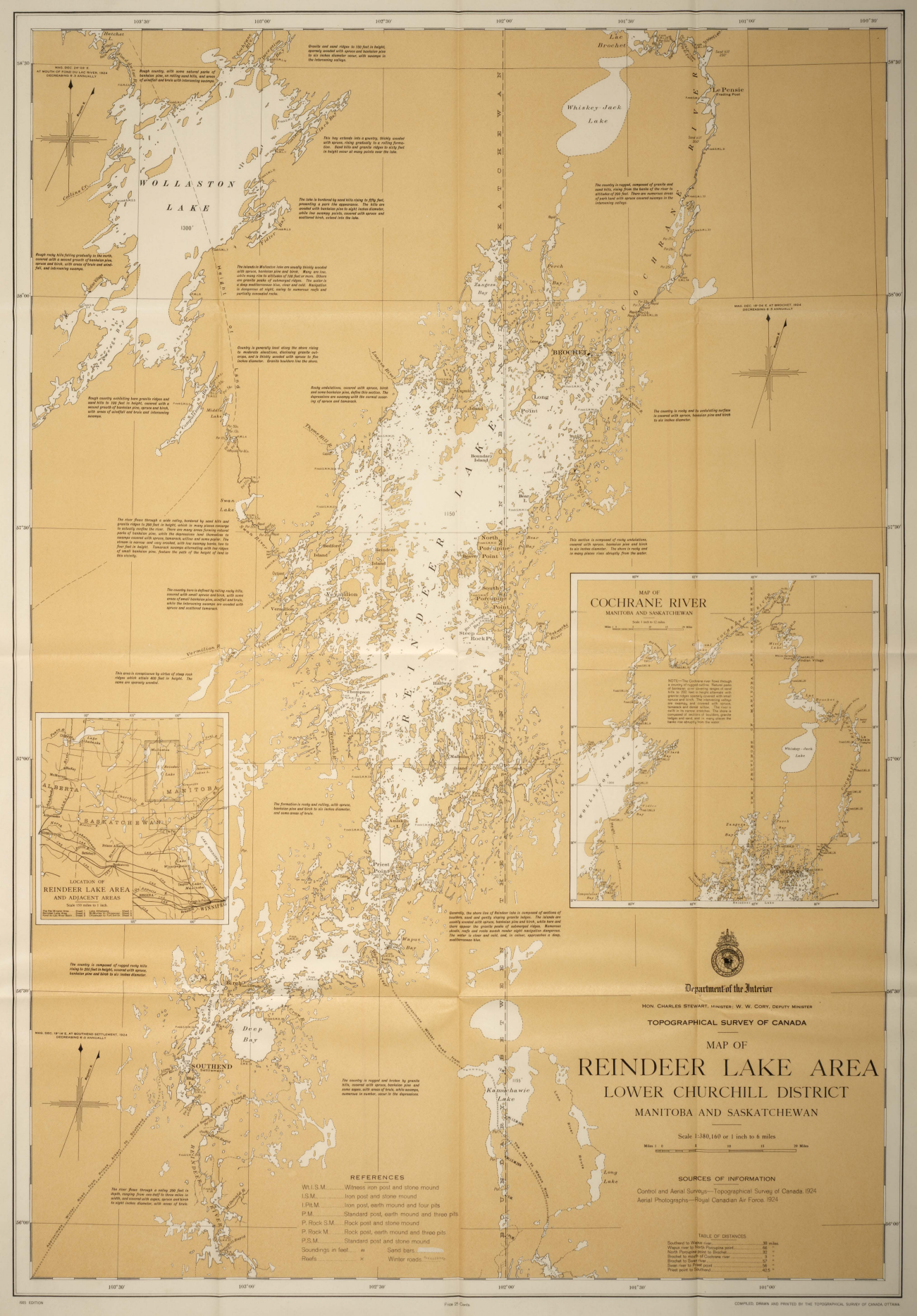

Department of the Interior
HON. CHARLES STEWART, MINISTER; W. W. CORY, DEPUTY MINISTER
TOPOGRAPHICAL SURVEY OF CANADA
MAP OF
THE PAS MINERAL AREA
AND
ADJACENT TERRITORY TO THE NORTH
MANITOBA AND SASKATCHEWAN
Scale 1:380,160 or 1 inch to 6 miles.
SOURCES OF INFORMATION
Surveys of the Topographical Survey of Canada, 191 to 1923.
Meridian and base lines 191 to 1914; 1917 and 1920.
Subdivision 1913 to 1919 inclusive.
Control and Aerial Surveys 1919, 1921, 1923.
Aerial Photographs—Royal Canadian Air Force, 1923, 1924.
Surveys of the Geological Survey of Canada.
REFERENCES
Interprovincial Boundary
Roads and trails
Winter roads
Height in feet above sea level 877
Soundings in feet at time of survey 9
P. rock S.M. Rock post and stone mound
P. rock Rock post, no mound or pits
P.M. Standard post, earth mound and three pits
MANITOBA
SASKATCHEWAN
Pukatawagan
Kississing Lake
Cormorant Lake
Cormorant
Sturgeon Landing P.O.
Herb Lake P.O.
Goval
Wanless
Cuttle
Persley
Moose Lake
Athapapuskow Lake
Amisk Lake
Missi L.
Ponton
Kiskit
Knapik
Woody's
Mars
Selkup
Dyce
Wanis
Cuttle
Birch Portage
Wildnest Lake
Nelson River
Churchill River
Sipiwuk Lake
Footprint Lake
Threepoint Lake
Flatrock Lake
Burntwood River
Burntwood Lake
Kiskittogisu Lake
Wintego
Wapisu
Notigi L.
Mooseskin Rapids
Opachuanau Falls
Pipehigan Lake
Nemei L.
Kukingisuak Lake
Okipwastikan Lake
Weaseahaskik Lake
Mirond Lake
Pelican Lake
Wood Lake
Limestone Lake
Bigstone Lake
Deschambault Lake
Hargrave Lake
Dulcimer L.
Crown R.
Egg L.
Goose Lake
Sturgeon-Weir River
Fog R.
Waterfall L.
O'Leary L.
Jobland L.
Arnkhold L.
Newes Lake
Rock Lake
Atikameg Lake
Talbot Lake
Location of The Pas Mineral Area
1925 EDITION
Price 25 Cents
COMPILED, DRAWN AND PRINTED BY THE TOPOGRAPHICAL SURVEY OF CANADA, OTTAWA



1925 EDITION.

Price 25 Cents

COMPILED, DRAWN AND PRINTED BY THE TOPOGRAPHICAL SURVEY OF CANADA OTTAWA.


103° 30'
103° 00'
102° 30'
102° 00'
101° 30'
101° 00'
100° 30'
58° 30'
58° 00'
57° 30'
57° 00'
56° 30'
56° 00'
Hatchet L.
Lac Brochet
Le Pensie Trading Post
Whiskey Jack Lake
WOLLASTON LAKE
1300'
Collins Cr.
Wollaston Lake
Hatchet Lake Portage
Granite and sand ridges to 150 feet in height, sparsely wooded with spruce and banksian pine to six inches diameter near, with swamps in the intervening valleys.
Rough country, with some natural parks of banksian pine, on rolling sand hills, and areas of windfall and brule with intervening swamps.
This bay extends into a country, thickly wooded with spruce, rising gradually to a rolling formation. Sand hills and granite ridges to sixty feet in height occur at many points near the lake.
The country is rugged, composed of granite and sand hills, rising from the banks of the river to altitudes of 350 feet. There are numerous areas of park land with spruce covered swamps in the intervening valleys.
The lake is bordered by sand hills rising to fifty feet, presenting a park like appearance. The hills are wooded with banksian pine to eight inches diameter, while the swampy points, covered with spruce and scattered birch, extend into the lake.
Rough rocky hills falling gradually to the north, covered with a second growth of banksian pine, spruce and birch, with areas of brule and windfall, and intervening swamps.
The islands in Wollaston lake are usually thickly wooded with banksian pine, spruce and birch. Many are low, with sandy rise to a height of only 100 feet or more. Others are granite peaks of varying height. The water is of a deep mediterranean blue, clear and cold. Navigation is dangerous at night, owing to numerous reefs and partially submerged rocks.
MAG. DEC. 24° 03' E. AT MOUTH OF POND DU LAC RIVER, 1924. DECREASING 8' 3 ANNUALLY
MAG. DEC. 19° 04' E. AT BROCHET, 1924. DECREASING 8' 5 ANNUALLY
Cochrane River
BROCHET
Long Point
Boundary Island
Bear I.
Perch Bay
Zaspers Bay
Thorne Hill
Middle Lake
Swan Lake
Country is generally level along the shore rising to moderate elevations, disclosing granite outcrops, and is thickly wooded with spruce to five inches diameter. Granite boulders line the shore.
Rocky undulations, covered with spruce, birch and some banksian pine, define this section. The depressions are swampy with the normal covering of spruce and tamarack.
Rough country exhibiting bare granite ridges and sand hills to 150 feet in height, covered with a second growth of banksian pine, spruce and birch, with areas of windfall and brule and intervening swamps.
The country is rugged and broken by granite hills, covered with spruce, banksian pine and some aspen, with areas of brule, while swamps, numerous in number, occur in the depressions.
The river flows through a wide valley, bordered by sand hills and granite ridges to 250 feet in height, which in many places converge to actually confine the river. There are many areas forming natural parks of banksian pine, while the depressions lend themselves to swamps covered with spruce, tamarack, willow and some poplar. The current is narrow and very crooked, with low swampy bends, two to four feet in height. Tamarack swamps alternating with low ridges of small banksian pine, feature the path of the height of land to this vicinity.
The country here is defined by rolling rocky hills, covered with small spruce and birch, with some areas of banksian pine, windfall and brule, while the intervening swamps are wooded with spruce and scattered tamarack.
This section is composed of rocky undulations, covered with spruce, banksian pine and birch to six inches diameter. The shore is rocky and in many places rises abruptly from the water.
North Portage Point
South Portage Point
Steep Rock Pt.
Vermilion Bay
Vermilion R.
Thompson Island
Mabrey Island
Macmillan Islands
Ashlith Island
Priest Point
This area is conspicuous by virtue of steep rock ridges which attain 400 feet in height. The same are sparsely wooded.
The formation is rocky and rolling, with spruce, banksian pine and birch to six inches diameter, and some areas of brule.
Generally, the shore line of Reindeer lake is composed of sections of boulders, sand and gently sloping granite ledges. The islands are usually wooded with spruce, banksian pine and birch, while here and there appear the granite peaks of submerged ridges. Numerous shoals, reefs and rocks should render night navigation dangerous. The water is clear and cold, and, in colour, approaches a deep, mediterranean blue.
The country is composed of rugged rocky hills rising to 250 feet in height, covered with spruce, banksian pine and birch to six inches diameter.
Wapus Bay
Birch Pt.
Deep Bay
SOUTHEND
SETTLEMENT
Kamichawie Lake
Long Lake
MAG. DEC. 19° 16' E. AT SOUTHEND SETTLEMENT, 1924. DECREASING 8' 0 ANNUALLY
The river flows through a valley 200 feet in depth, ranging from one-half to three miles in width, and covered with aspen, spruce and birch to eight inches diameter, with areas of brule.
Reindeer River
Reindeer Lake
Wollaston Lake
Cochrane River
Whiskey Jack Lake
Zaspers Bay
Perch Bay
Wollaston Lake Portage
Southend Portage
Cochrane River Portage
Sand hill 200'
Sand hill 350'
Sand hill 300'
Sand hill 250'
Sand hill 200'
Sand hill 150'
Sand hill 100'
Sand hill 50'
Sand hill 100'
Sand hill 150'
Sand hill 200'
Sand hill 250'
Sand hill 300'
Sand hill 350'
Sand hill 400'
Sand hill 450'
Sand hill 500'
Sand hill 550'
Sand hill 600'
Sand hill 650'
Sand hill

SCHEDULE A

PAY AND ALLOWANCES FOR FORMER MEMBERS OF THE FORCES WHO ARE ON THE STRENGTH OF THE DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT FOR MEDICAL TREATMENT

—	All ranks below sergeant (Mil.) and petty officers (Naval)			Sergeants (Military) Petty Officers and equivalent ratings (Naval)			Squadron Batt. or Coy. Q.M. Sergeant (Mil.)			Squad. Batt. Co. Sgt. Maj., Col. Sgt., Staff Sgt., Q.M. Sgt. (without warrant) (mil.)—Chief Petty Off. and equiv. ratings (naval)			Q.M. Sergeant (W.O. Class 2) (Military)			Sgt. Maj. (without Warrant) Military Naval Cadet Midshipman (Naval)			Sgt. Maj. (Warrant Officer Class I.) (Military) Warrant Officer (Naval)			Lieut. (Military) Sub-Lieutenant (Naval)			Capt. (Military) Lieutenant (Naval)			Major (Military) Lieutenant-Commander (Naval)			Lieut.-Colonel (Mil.) Commander; Captain under 3 years (Naval) and all ranks above			Colonel (Military) Captain over 3 years (Naval)			Brig.-Gen. (Comdg. Brigade) (Military) Commodore (Naval)			Maj. Gen. (Comdg. Division) (Military) Rear Admiral (Naval)		
	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total	Payable to man	Payable to dependents	Total
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
IN-PATIENT																																							
Single man	1 48	.....	1 48	1 73	.....	1 73	1 93	.....	1 93	2 03	.....	2 03	2 23	.....	2 23	2 28	.....	2 28	2 53	.....	2 53	3 19	.....	3 19	4 00	.....	4 00	5 00	.....	5 00	6 25	.....	6 25	7 50	.....	7 50	14 14	.....	14 14	22 03	.....	22 03
Married man—wife only	0 65	2 18	2 83	0 65	2 37	3 02	0 65	2 57	3 22	0 65	2 67	3 32	0 65	2 87	3 52	0 65	2 92	3 57	0 65	3 33	3 98	0 65	3 85	4 50	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" wife and 1 child	0 65	2 47	3 12	0 65	2 67	3 32	0 65	2 87	3 52	0 65	2 97	3 62	0 65	3 16	3 81	0 65	3 21	3 86	0 65	3 62	4 27	0 65	3 85	4 50	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 2 child	0 65	2 77	3 42	0 65	2 90	3 55	0 65	3 10	3 75	0 65	3 20	3 85	0 65	3 39	4 04	0 65	3 44	4 09	0 65	3 85	4 50	0 65	3 85	4 50	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 3 "	0 65	3 03	3 68	0 65	3 07	3 72	0 65	3 26	3 91	0 65	3 36	4 01	0 65	3 56	4 21	0 65	3 61	4 26	0 65	4 02	4 67	0 65	4 02	4 67	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 4 "	0 65	3 30	3 95	0 65	3 30	3 95	0 65	3 43	4 08	0 65	3 53	4 18	0 65	3 72	4 37	0 65	3 77	4 42	0 65	4 18	4 83	0 65	4 18	4 83	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 5 "	0 65	3 56	4 21	0 65	3 56	4 21	0 65	3 59	4 24	0 65	3 69	4 34	0 65	3 89	4 54	0 65	3 94	4 59	0 65	4 35	5 00	0 65	4 35	5 00	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
" " and 6 "	0 65	3 85	4 50	0 65	3 85	4 50	0 65	3 85	4 50	0 65	3 85	4 50	0 65	4 02	4 67	0 65	4 07	4 72	0 65	4 48	5 13	0 65	4 48	5 13	0 65	4 67	5 32	0 65	5 99	6 64	0 65	7 57	8 22	0 65	8 82	9 47	0 65	15 20	15 85	0 65	23 09	23 74
Man with dependent or dependents:—																																									
" 1 dependent	0 65	1 82	2 47	0 65	2 01	2 66	0 65	2 21	2 86	0 65	2 31	2 96	0 65	2 51	3 16	0 65	2 56	3 21	0 65	2 97	3 62	0 65	3 20	3 85	0 65	3 95	4 60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 2 dependents	0 65	2 11	2 76	0 65	2 24	2 89	0 65	2 44	3 09	0 65	2 54	3 19	0 65	2 74	3 39	0 65	2 79	3 44	0 65	3 20	3 85	0 65	3 20	3 85	0 65	3 95	4 60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 3 dependents	0 65	2 37	3 02	0 65	2 41	3 06	0 65	2 60	3 25	0 65	2 70	3 35	0 65	2 90	3 55	0 65	2 95	3 60	0 65	3 36	4 01	0 65	3 36	4 01	0 65	3 95	4 60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 4 dependents	0 65	2 64	3 29	0 65	2 64	3 29	0 65	2 77	3 42	0 65	2 87	3 52	0 65	3 07	3 72	0 65	3 11	3 76	0 65	3 53	4 18	0 65	3 53	4 18	0 65	3 95	4 60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 5 dependents	0 65	2 90	3 55	0 65	2 90	3 55	0 65	2 93	3 58	0 65	3 03	3 68	0 65	3 23	3 88	0 65	3 28	3 93	0 65	3 69	4 34	0 65	3 69	4 34	0 65	3 95	4 60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 6 dependents	0 65	3 20	3 85	0 65	3 20	3 85	0 65	3 29	3 85	0 65	3 20	3 85	0 65	3 36	4 01	0 65	3 41	4 06	0 65	3 82	4 47	0 65	3 82	4 47	0 65	3 95	4 60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Single man with 1 partial dependent	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97	0 65	1 32	1 97	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 2 or more partial dependents	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30	0 65	1 65	2 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
OUT-PATIENT CLASS 1																																							
Single man	2 47	.....	2 47	2 53	.....	2 53	2 73	.....	2 73	2 83	.....	2 83	3 03	.....	3 03	3 08	.....	3 08	3 33	.....	3 33	4 70	.....	4 70	5 70	.....	5 70	6 70	.....	6 70	7 95	.....	7 95	9 20	.....	9 20	15 78	.....	15 78	23 67	.....	23 67
Married man—wife only	0 65	2 77	3 42	0 65	3 16	3 81	0 65	3 36	4 01	0 65	3 46	4 11	0 65	3 66	4 31	0 65	3 71	4 36	0 65	4 12	4 77	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" wife and 1 child	0 65	3 13	3 78	0 65	3 46	4 11	0 65	3 66	4 31	0 65	3 76	4 41	0 65	3 95	4 60	0 65	4 00	4 65	0 65	4 41	5 06	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" " and 2 child	0 65	3 53	4 18	0 65	3 69	4 34	0 65	3 89	4 54	0 65	3 99	4 64	0 65	4 18	4 83	0 65	4 23	4 88	0 65	4 64	5 29	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 54
" " and 3 "	0 65	3 85	4 50	0 65	3 85	4 50	0 65	4 05	4 70	0 65	4 15	4 80	0 65	4 35	5 00	0 65	4 40	5 05	0 65	4 81	5 46	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" " and 4 "	0 65	4 18	4 83	0 65	4 18	4 83	0 65	4 22	4 87	0 65	4 31	4 96	0 65	4 51	5 16	0 65	4 56	5 21	0 65	4 97	5 62	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" " and 5 "	0 65	4 51	5 16	0 65	4 51	5 16	0 65	4 51	5 16	0 65	4 51	5 16	0 65	4 68	5 33	0 65	4 73	5 38	0 65	5 14	5 79	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
" " and 6 "	0 65	4 84	5 49	0 65	4 84	5 49	0 65	4 84	5 49	0 65	4 84	5 49	0 65	4 84	5 49	0 65	4 84	5 49	0 65	5 27	5 92	0 65	5 30	5 95	0 65	6 37	7 02	0 65	7 69	8 34	0 65	9 27	9 92	0 65	10 52	11 17	0 65	17 10	17 75	0 65	24 99	25 64
Man with dependent or dependents:—																																									
" 1 dependent	1 25	1 81	3 06	1 40	1 99	3 39	1 45	2 20	3 65	1 45	2 30	3 75	1 45	2 50	3 95	1 45	2 54	3 99	1 45	2 96	4 41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 2 dependents	1 30	2 12	3 42	1 40	2 22	3 62	1 45	2 43	3 88	1 45	2 53	3 98	1 45	2 73	4 18	1 45	2 77	4 22	1 45	3 19	4 64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 3 "	1 40	2 38	3 78	1 45	2 40	3 85	1 45	2 59	4 04	1 45	2 69	4 14	1 45	2 89	4 34	1 45	2 94	4 39	1 45	3 35	4 80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 4 "	1 50	2 61	4 11	1 50	2 68	4 18	1 50	2 71	4 21	1 50	2 81	4 31	1 50	3 00	4 50	1 50	3 05	4 55	1 50	3 46	4 96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 5 "	1 55	2 89	4 44	1 55	2 95	4 50	1 55	2 95	4 50	1 55	2 95	4 50	1 55	3 12	4 67	1 55	3 17	4 72	1 55	3 58	5 13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 6 "	1 60	3 17	4 77	1 60	3 23	4 83	1 60	3 23	4 83	1 60	3 23	4 83	1 60	3 23	4 83	1 60	3 23	4 83	1 60	3 66	5 26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Single man with 1 partial dependent	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79	1 50	1 29	2 79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Single man with 2 or more partial dependents	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12	1 50	1 62	3 12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....